

# The Mining Journal

## RAILWAY AND COMMERCIAL GAZETTE,

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 518.—VOL. XV.]

LONDON: SATURDAY, JULY 26, 1845.

[PRICE 6D.]

**BROWNWILLY.—VALUABLE FREEHOLD AND OTHER PROPERTY.**—SITUATED IN THE MOST RENOWNED MINING DISTRICT IN THE COUNTY OF CORNWALL.—TO BE SOLD, BY PUBLIC AUCTION (free of Auction Duty), by Mr. GOAD, at Oliver's Hotel, Bodmin, on Tuesday, the 31st day of August next, at Four o'clock in the afternoon.

The freehold and inheritance of and in all that tenement known by the celebrated name of BROWNWILLY, situated in the parish of ST. BREWARD, otherwise Symonward, in the county of Cornwall, containing about 299a. 0a. 33r. of land, with an extensive right of common, now in the occupation of Philip Ham, as tenant at will. There is an annual profit payable to the proprietor of the above tenement, arising from Tin Stream Works thereon, now in a prosperous state of working.

All that messuage, tenement, and premises, called FERNACRE, adjoining Lot I., and also situate in the said parish of St. Breward, otherwise Symonward, containing about 60a. 1a. 24r. of land, now in the occupation of the said Philip Ham, as tenant at will. One moiety of this lot is held in fee-simple, and the other moiety for the remainder of a term of 999 years, of which 721 years are now unexpired.

The fame of "BROWNWILLY" is too well-known to render it necessary to enlarge on its position as one of the most prominent "Lions" of Cornwall; but, it may be added, that, by reason of the recent extraordinary, grand, and lucrative discoveries in the mineral productions of the lands in this, the Eastern, part of the county, where the "Caradons," and other mines in their qualities and quantities of the various ores and metals are bearing away the palm from those of the Great "Tresavean," and others in its neighbourhood in the west, where alone, until within the last four or five years, those hidden treasures were supposed to be found, this fine property (in which as yet no trial for those riches has been made, except for tin, of which considerable quantities have already been discovered and sold, but towards which all these neighbouring valuable mines, now in full operation, are driving and approaching) may be considered and fairly estimated as one of the most inviting, attractive, and precious, ever offered for competition, and well worth the attention of capitalists and speculators in mine adventures.

The above property is situated about twelve miles from Liskeard, twelve from Launceston, twelve from Bodmin, and four from Camelford—all of them market towns of high repute, and rendered more so of late by the increasing population congregated thither by the numerous additional mines springing up in their vicinity; and the various roads from Exeter to Falmouth, with their branches, will afford every facility for a ready sale of the produce of this property, whether of agricultural or mineral production.

The respective tenants will show the premises, and for further particulars, application must be made (if by letter to be post-paid) to Messrs. Glubb, solicitors, Liskeard; or Messrs. J. and H. T. Smith, solicitors, Devonport.—Dated July 1, 1845.

**VALUABLE LEASEHOLD LEAD MINES, MACHINERY, &c., FLINTSHIRE.**—TO BE SOLD, BY AUCTION, BY MR. JAMES WILLIAMS, at the BLWCH-Y-DDAU-FRYN MINE, near MOLD, in the county of Flint, on Tuesday, the 13th day of August, 1845, at Eleven o'clock precisely, in one or more lots, as may be agreed upon at the time of sale, and subject to conditions, the COMPANY'S LEASEHOLD INTEREST IN THE BLWCH-Y-DDAU-FRYN, GARREG-BOETH, and DOLFECHLAS MINES, situate in the parishes of CILCEN and MOLD, in the said county.

These mines are held under leases granted by Mrs. Allanson, Edward Lloyd, John Taylor, Esq., and others (having several years to run and subject only to the usual royalties)—are situate in a district abounding with lead ore, and upon the well-known "Brwlch-y-ddau-fryn" and "Garreg-boeth" veins, and adjoin the celebrated Pant-y-mwyn, Coed-yr-hendre and Bryn-celyn Mines.

There are whimsy shafts sunk and several day levels driven in the veins at the depth of 80 and 100 yards and upwards, in which successful operations are carried on, and as there is a great extent of free land in their direction, it is confidently expected that persons having capital, and desirous of employing it to advantage, will find this, in every respect, a favourable opportunity for doing so.

The respective mines will be shown, and further particulars had, by applying to Capt. James Edwards, Brwlch-y-ddau-fryn Mine, near Mold. The maps and leases may be inspected at the office of the auctioneer, Messrs. J. and H. T. Smith, Liskeard.

Also, at Two o'clock in the afternoon of the same day, the STEAM PUMPING ENGINE, and other valuable MINING MATERIALS, &c., comprising an excellent 36-inch CONDENSING STEAM-ENGINE, 7 feet stroke in the piston, 7 feet in the pump, with two cylindrical boilers, 28 and 30 feet long, and 3 feet 6 inches in diameter, recently put into thorough repair, complete, with balance-bob, &c., eighty yards of 9-inch main rope; plunger and drawing lifts (9 and 10 inch); hand pumps and lifts, plunger poles, drawing lift, 20 yards long, with 9-inch working barrel, one 8-inch working barrel, 10 feet long, steam and feed pipes, six and eight-arm cast-iron, shears, and ropes, brammock bob, rods, and pulleys, pedestals, &c.; a large quantity of round and bar-iron, scrap, wrought, and cast iron, wheels and ropes, chains and kibbles, anvils, bellows, vices, and other useful requisites, capital, and many other tools, and a quantity of old ropes, useful timber, &c., &c., and a few other fixtures, and other miscellaneous effects.

N.B. The whole will be sold at the Brwlch-y-ddau-fryn Mine, and descriptive catalogues may be had five days prior to the sale, of Captain James Edwards, on the premises; or of the auctioneer, as aforesaid.

**SHROPSHIRE.—VALUABLE FREEHOLD MINING PROPERTY.** containing 136a. 3a. 26r., or thereabouts, with a most excellent MANSION HOUSE, called PRIOR'S HALL, situate at Prior's, in the parish of Shifnal, within two miles of the town of Shifnal, and close to the turnpike-road, leading from Birmingham to Shrewsbury, and within a mile of each of the projected lines of railroad from Birmingham and Wolverhampton to Shrewsbury, and six miles from the town of Wellington, TO BE SOLD, BY AUCTION, in one lot, by Messrs. WALKER and PAGE, at the Swan Inn, Wolverhampton, on Monday, the 18th day of August, 1845, at Five o'clock in the afternoon, subject to such conditions as will be then produced. For further particulars apply to Messrs. Pritchard and Co., solicitors, Broseley, Salop.

**COPPER MINE FOR SALE, situated in the island of CUBA,** twenty miles from the port of Nuevitas.—Five shafts, from 50 to 90 feet, have been sunk on the land, which has been thoroughly explored by mining captains for more than 300 feet east and west, and pronounced one of the richest mines in the whole island. Upwards of \$40,000 worth of ore has already been taken out, but as the works must be extended, more capital is required; and for this reason only one-half, or five-eighths, of this valuable property is OFFERED FOR SALE TO CAPITALISTS who will work it. A new engine, pumps, tools, and 100 acres woodland is attached to the mine, within 200 yards of which passes the Nuevitas and Principe Railroad.—References may be made to Messrs. Carne and Geo. of Liverpool; Geo. Ditson, Esq., U.S.V. Consul, Nuevitas (Cuba); and Messrs. John Simmons and Son, Boston, U.S.

**CAPITAL, EXTENSIVE, AND VALUABLE SLATE QUARRY,** with immediate possession.—TO BE LET, OR SOLD, all that capital, extensive, and valuable QUARRY OF SLATES, of the best quality, now open, and in work, called Rhiwbach, together with the cottages and other offices attached thereto, situate in the parish of PENMACHNO, in the county of Carnarvon. The above quarry has been worked for about twenty years, and is situate within two miles only of the Ebbw Vale Railway, along which is conveyed the slate from the neighbouring extensive quarries to Portmadoc; and, by a comparatively small outlay, a road might be made from the above quarry to the said railway. It is also situate about four miles from Trefriw Quay, on the River Conway—an excellent shipping for vessels of large tonnage. The quarry is capable of being extensively and profitably worked by an experienced and spirited capitalist, who will find the above well worthy of his notice—terms liberal. Also a comfortable HOUSE, with an extensive FARM.—For further particulars apply (by letter, post paid) to Mr. Mousdale, Gwynedd, Anglesey.

**FOR SALE, TWO HIGH-PRESSURE STEAM-ENGINES.**—1. A HIGH-PRESSURE PUMPING ENGINE, 30-inch cylinder, stroke 7-feet. 2. A HIGH-PRESSURE WINDING ENGINE, 20-inch cylinder, and stroke 5-feet. Also, THREE HIGH-PRESSURE BOILERS. These engines will be sold on advantageous terms.—Apply to Mr. Moore, Morrison's Haven, Prestonpans.

**STEAM-ENGINES, from 8 to 16-horse power, ALWAYS IN STOCK.**—Apply to Mr. Capper, engineer and ironfounder, Birmingham.

N.B.—CASTINGS AND PIT WORK MADE TO ORDER.

**THE PATENT SAFETY FUSE, FOR BLASTING ROCKS IN MINES, QUARRIES, AND FOR SUBMARINE OPERATIONS.**—This article affords the SAFEST, CHEAPEST, and MOST EXPEDITIOUS MODE of effecting this very hazardous operation. From many testimonies to its usefulness with which the manufacturers have been favoured from every part of the kingdom, they select the following letter, recently received from John Taylor, Esq., F.R.S., &c.:—"I am very glad to hear that your recommendations have been of any service to you; they have been given from a thorough conviction of the great usefulness of the Safety Fuse; and I am quite willing that you should employ my name as evidence of the same." Manufactured and sold by the Patentees, BLOKFOED, SMITH, and DAVEY, Gt. Cornhill, Cornwall.

**PATENT GALVANISED IRON COMPANY.**—In the Court of Common Pleas, on the 25th inst., the argument for the new trial came to a hearing, when the Court recommended the question to stand over, until the writ of *certiorari* issued out by Messrs. Morewood and Rogers had been brought to trial (which, unfortunately, cannot take place before December). Trial by "*ad hoc* verdict" is the proper mode of testing the validity of a patent, and should have been resorted to by Messrs. Morewood and Rogers, and Walker and Co., instead of invading Graudon's patent, thereby saving themselves and their customers from a heavy responsibility, as the patent remains in full force, and all parties are hereby CAUTIONED against incurring the heavy penalties recoverable for infringing the said patent for coating iron with zinc to prevent oxidation. No doubt is entertained of fully substantiating this, one of the best and most important patents ever enrolled, and proceedings will be taken against all parties who invade it. The jury, in the cause "*Patteson and others v. Holland, Morewood, and Rogers*," tried in February last, decided all the issues in favour of the patent, except one upon the specification, upon which point the evidence at the future trial will correct the misconception which arose upon that issue.

3, Mansion-house-place, London, June 13, 1845.

**ASTURIAN MINING COMPANY.**—The shareholders in this company are hereby informed, that a REPORT OF THE PROCEEDINGS at the ANNUAL GENERAL MEETING, held on the 30th ult., may be had on application, at the office, 9, Austinfriars.

(Signed) JOHN CHARETTE, Secretary. CONSOLIDATED COPPER MINES OF COBRE ASSOCIATION.—Notice is hereby given, that a DIVIDEND OF ONE POUND per share will be PAID to the holders of certificates in this company, at the office of the association, 26, Austinfriars, on and after the 7th day of August next, between the hours of Eleven and Three o'clock. The proprietors are requested to leave their certificates at the office for examination three clear days before the day of payment.

By order of the court of directors, WM. LECKIE, Secretary. 26, Austinfriars, July 22, 1845.

**COPIAPO MINING COMPANY.**—Notice is hereby given, that the GENERAL MEETING of shareholders will be HELD at the company's office, 22, Austinfriars, on Wednesday, the 30th inst., at One o'clock precisely, for the purpose of receiving the report of the directors for the past half-year. At which meeting Henry Harman, Esq., and C. Houston Ellis, Esq., directors, and Robert Skyrner, Esq., auditor, who go out of office by rotation—being eligible, offer themselves for re-election. This meeting is made special, for the consideration of the expediency of raising additional capital for a vigorous prosecution of the company's operations, according to the intimation given to the shareholders at the last half-yearly meeting.

By order of the directors, FRED. GRELLET, Secretary. 22, Austinfriars, July 18, 1845.

**UNITED MEXICAN MINING ASSOCIATION.**—Notice is hereby given, that the HALF-YEARLY GENERAL MEETING of proprietors of this association will be HELD at the London Tavern, Bishopsgate-street, on Wednesday, the 30th July inst., at One o'clock precisely, when the election of two directors and one auditor will take place.—Directors going out by rotation, John Hibbert, Esq., and James Mackillop, Esq. Auditor going out by rotation, Thomas M. Flockton, Esq.—and who, being eligible thereto, are candidates for re-election. And the meeting will be made special, for the purpose of confirming the resolutions prepared under the advice of counsel, and passed at a special general meeting of the proprietors of this association, held on the 24th ultimo, for altering certain clauses of the Deed of Settlement relative to the payment of dividends, so as to authorise the directors to make such payments whenever, and at all times when they may be in possession of funds sufficient for the purpose.

The transfer books will be closed, as usual, on the evening of the 12th, and re-opened on the 31st inst.—The holders of scrip shares will not be entitled to receive any dividend that may be declared, until their shares are registered.

By order of a court of directors, JOHN MATHER, Sec. 8, Great Winchester-street, London, July 4, 1845.

**ASSAYING AND MINERAL ANALYSIS.—IMPORTANT TO THE PROPRIETORS AND SHAREHOLDERS OF MINES, &c.**—Messrs. MITCHELL and FIELD'S LABORATORY IS OPEN TO GENTLEMEN FOR INSTRUCTION IN ALL BRANCHES OF ASSAYING, MINERAL ANALYSIS, AND GENERAL CHEMISTRY; ASSAYS AND ANALYSES conducted as usual.—For terms address to Messrs. Mitchell and Field, assayers, &c., 8, A. Hawley-road, Kentish-town, London.

**TO ENGINEERS, RAILWAY CONTRACTORS, MINING AGENTS, IRONMASTERS, AND OTHERS REQUIRING FINE GREASE FOR MACHINERY AND AXLES of every description.**—JOSEPH PERCIVAL'S IMPROVED ANTI-FRICTION GREASE is—after trials on machinery and axles of every kind where constant friction is kept up—admitted to be the most useful, economical, and best preparation of the kind ever offered to the public.

References to scientific and practical men can be given, and testimonials shown of its great excellence.—Samples forwarded on application at the manufactory, Green-street, Wellington-street, Blackfriars-road, London.

**SUSPENSION BRIDGES.—ANDREW SMITH'S PATENT GALVANISED WIRE ROPE AND CHAIN SUSPENSION, OR PARADOX TENSION, BRIDGES,** are so constructed that the lateral oscillation and vibration (so destructive on the ordinary suspension principle) are entirely prevented by this improvement. For deep ravines or cuttings, the Paradox Tension Bridge costs much less than those of the suspension principle—piers, &c., being entirely dispensed with.

Drawings and models may be seen, and all necessary information had, on application at the offices, White Lion-court, Cornhill; 69, Princess-street, Leicester-square; or at the works, Millwall, Poplar.

**SIR W. BURNETT'S PATENT.—THE CHEAPEST AND BEST PROCESS FOR THE PRESERVATION OF TIMBER, CANVAS, CORDAGE, COTTON, WOOLLEN, &c.**—LICENSES GRANTED TO NOBLEMEN AND GENTLEMEN to use the preparation; and to others, for the purposes of trade, on advantageous terms.

HYDRAULIC APPARATUS AND TANKS, for the expeditious preparation of the above materials, at the principal station, MILLWALL, POPLAR, nearly opposite Greenwich. Numerous SPECIMENS AND TESTIMONIALS may be seen, and every information obtained, at the office, 53, King William street, London-bridge.

**PAYNE'S PATENT PROCESS FOR THE PRESERVATION AND IMPROVEMENT OF TIMBER, &c.**—PAYNE and LODGE beg to invite the attention of Engineers, Railway Companies, Architects, and others, to the ABOVE PROCESS, and to state that they are prepared to ERECT, the necessary APPARATUS in any part of the United Kingdom, where the quantity is sufficiently large to cover the outlay of its removal.—Further particulars can be obtained at WHITEHALL WHARF, CANNON-Road, WESTMINSTER, or at their other stations—FLEETWOOD-on-WYRE, LANCAIRE, UNION WHARF, SOUTHAMPTON, and WISBEACH, CAMBRIDGESHIRE, GUILDFORD, SURREY.

**THE PROJECTED RAILWAYS.—ANALYSIS OF THE PATENT METALLIC SAND, OR ENGLISH POZZOLANA,** used in the foundation of the New Houses of Parliament, the great tunnels on the Birmingham Railway, seawall on the Great Western Railway, in Devonshire, and other important works, referred to more particularly in the prospectus:—

Silica ..... 49 Magnesia ..... 2  
Oxide of iron ..... 32 Zinc ..... 3  
Alumina ..... 6 Arsenic and carbonate of copper ..... 4  
Lime ..... 6

Used as an external Stucco, the Metallic Sand Cement is cheaper than Roman Cement—unaffected by frost or wet—in appearance resembles the best Portland stone—requires neither colour nor paint—and is entirely free from vegetative cracks and blisters, to which Roman Cement is liable.

Price in Swans, free on board ..... 6d. per bushel; Or supplied in London at ..... 1s. per bushel. Further particulars, on application to Mr. C. K. Eyer, 4, New Broad-street, London or at the Metallic Sand Works, opposite Frait-street, King's-road, Camden New Town.

BY HER MAJESTY'S ROYAL LETTERS PATENT. **SMART'S ELLIPTICAL CONVEX METALLIC FLOATS,** FOR PROPELLING STEAM-SHIPS.—The very great superiority of this invention over the common float, in all points, having been fully proved by the application to various steamer of from 50 to upwards of 200-horse power—the patent is enabled, with the greatest confidence, to recommend it to the Government and the public generally, and will immediately attend to all applications for license at his residence, No. 5, Grenville-place, Holborn, Bristol.—June 19, 1845.

Personal attendance to the fitting (if required), on travelling expenses being paid. **OFFICE FOR PATENTS, 7, STAPLE INN, HOLBORN.** J. MURDOCH (successor and late assistant to Mr. Hebert) informs INVENTORS and PATENTERS, that at his OFFICE they can obtain REFERENCE TO A CLASSIFIED LIST OF PATENTS, THE ONLY ONE EXISTANT, which shows at one view all the Patents ever granted for any particular object, whereby they may save much trouble and expense, and procure information not otherwise obtainable. BRITISH and FOREIGN PATENTS OBTAINED, and USEFUL and ORNAMENTAL DESIGNS REGISTERED. SPECIFICATIONS carefully prepared, and REPORTS of ENROLLED SPECIFICATIONS furnished on moderate terms. FINISHED and WORKING DRAWINGS executed with accuracy and despatch.

**PATENT IMPROVEMENTS IN CHRONOMETERS.** WATCHES, AND CLOCKS.—E. J. DENT, 82, Strand, and 23, Cockspur-street watch and clock maker, BY APPOINTMENT, to the Queen and his Royal Highness Prince Albert, begs to acquaint the public, that the manufacture of his chronometers, watches, and clocks, is secured by three separate patents, respectively granted in 1836, 1840, 1843. Silver lever watches, jewelled in four holes, 6s. each; in gold cases, 8s. 2s. to 210s. Gold horizontal watches, with gold dials, from 8s. to 12s. 6s. DENT'S PATENT DIALING SCOPE, or meridian instrument, is now ready for delivery. Pamphlets containing a description and directions for its use 1s. each, but to customers gratis.

**NOTICE TO INVENTORS.—OFFICE FOR PATENTS** OF INVENTIONS AND REGISTRATIONS OF DESIGNS, 14, LINCOLN'S INN-FIELDS.—The printed INSTRUCTIONS gratis, and every information upon the subject of PROTECTION for INVENTIONS, either by Letters Patent or the Designs Act, may be had by applying personally, or by letter, pre-paid, to Mr. Alexander Prince, of the office, 14, Lincoln's Inn-Fields.

**ONE GUINEA WELLINGTON BOOTS, MADE TO MEASURE,** by G. GARRETT, BOOTMAKER, by special appointment, to the KING OF THE BELGIANS.—A STOCK of the most FASHIONABLE and HIGHLY-FINISHED BOOTS, of all kinds, kept ready made, to suit the convenience of Noblemen, Officers of the United States, and Gentlemen, who prefer trying on boots previous to purchasing, or giving an order.—G. GARRETT, ARMY BOOTMAKER, 130, JERMYN STREET, and 4, LEICESTER-SQUARE.

**RYE AND THOMAS, MINE AGENTS AND DEALERS** IN STOCKS, RAILWAY AND OTHER SHARES, 80, OLD BROAD-STREET, LONDON.

**MINING AND RAILWAY OFFICES, 16, CORNHILL.**—Mr. RICHARD TREDINNICK having entered into arrangements with PRACTICAL AGENTS and ENGINEERS resident in the several MINING DISTRICTS, whereby he is enabled to obtain the earliest and most accurate information affecting MINING and RAILWAY undertakings, proffers his services to the capitalist and adventurer in MINES and RAILWAYS, in the PURCHASE or DISPOSAL of SHARES, as also obtaining REPORTS or STATEMENTS with reference thereto.—Reference as to ability and the facilities possessed by Mr. Tredinnick will be readily afforded; and strictest confidence preserved respecting all communications.

**RAILWAY SHARES, &c., BY AUCTION, at the HALL OF COMMERCE.**—Messrs. LAMOND and CO. respectfully beg to announce, that their SALE OF RAILWAY SHARES are held every Tuesday and Friday, at One o'clock precisely.—On TUESDAY NEXT, the 29th inst., in addition to their usual catalogue of RAILWAY SHARES, they will have the honour to submit, at Twelve o'clock precisely, the following MINING and OTHER SHARES—viz., South Canadian, Larnaroch, Wheel Maria, West Holmhouse, Wheel Emma, Wheel Eliza, Old Harrowbarrow, West Wheel Concord, Caradon United, Royal Santiago, Tamara, Colono, Callington, Tincroft, East Tincroft, Anglo-Mexican, and various other mining shares, as per catalogue; also National Bank of Ireland, Thames Plate Glass, London Gas, Farmers' Insurance, United Canada Debentures, &c.—July 26, 1845.

**RAILWAY, SHARES, &c., BY AUCTION.—TO SHAREHOLDERS AND CAPITALISTS.**—Encouraged by the recent increase of business in the sale and transfer of shares in the various public companies, British and foreign, and acting under the advice of friends and capitalists, Messrs. Lamond and Co., licensed auctioneers, have deemed the additional occupation thus created, together with the abolition of the auction duties, a fit opportunity for opening a separate and independent practice, to which they have determined to devote their undivided attention, declining all other business for this express purpose—viz., "the sale by auction of shares in railways, British and foreign, assurances, mining, cemetery, and canal companies, joint-stock banks, debentures, bonds, &c., &c.," in short, of every description of interest connected with the numerous public companies formed and now forming in the commercial world.

In arriving at this determination, it will be the anxious desire of Messrs. Lamond and Co. to give every information and satisfaction to their friends and the public, and looking at the probable magnitude of operations yielding adequate remuneration, they have resolved to adopt a low scale of ad valorem charges, by way of commission, and where sales are not effected, a small fee, merely sufficient to cover the expenses of printing, advertising, &c., &c., for putting up the lots.

To avoid any misunderstanding, a deposit of 10 per cent. will be required on all purchases at the hammer, unless the same be effected through bankers, members of the Stock Exchange, or parties well known to the auctioneers; and a settlement of the remainder of the purchase-money, must, in every case, be made in the course of the following day, during the usual hours of business, or the sale will be void, and the deposit forfeited, except when special transfers are required, and to such all possible expedition will be given.

As all scrip and share certificates must be deposited for examination at least one day previously to their being offered to public competition, Messrs. Lamond and Co., bankers, Nicholas-lane, and Messrs. Ransom and Co., bankers, Pall Mall East, London, have been pleased to allow reference to be made to them in regard to the respectability of the firm of Lamond and Co.

They purpose selling every Tuesday and Friday in each week, in their rooms, at the undermentioned hall, at One o'clock precisely for the future, instead of Two o'clock as hitherto; the first sale having commenced on Tuesday, the 31st day of June. Letters and orders containing instructions, are respectfully requested to be addressed as under, where one or more of companies forth be always in attendance to be conferred with, if required; and advice of the operations of the day will be forwarded by the first post after each day's sale, and the proceeds paid according to their correspondent's instructions.

Messrs. Lamond and Co. further propose to take subscriptions of £1 1s. per annum from all parties desiring to have catalogues sent them on the night before the sale, except bankers, members of the Stock Exchange, and subscribers to the Hall of Commerce, to whom they will, on application, be delivered gratis; but, to prevent inconvenient intrusion, no one can be admitted into the sales room without a catalogue, which, if furnished at the door, will be charged 1s.

**SCALE OF CHARGES.**  
One Shilling per Share ..... under £20 0 0  
One Shilling and Sixpence ..... under 50 0 0  
Two Shillings and Sixpence ..... under 100 0 0  
Five Shillings on all above.

And Two Shillings and Sixpence per lot, offered for sale (be the number of shares in such lot more or less) when sales are not effected.

Hall of Commerce, Threadneedle-street, London.

**THE ELECTRIC TELEGRAPH.—COOKE AND WHEATSTONE PATENTERS.** The ELECTRIC TELEGRAPH has been adopted on the following LINES:—By ORDER OF THE LORDS OF THE ADMIRALTY, on the South-Western Railway, as GOVERNMENT TELEGRAPH, from the ADMIRALTY, Whitehall, to PORTSMOUTH, above NINETEEN MILES.

On the same line, as a Commercial Telegraph from Nine Elms to the Port of Southampton, 77 miles—with a branch to Gosport, 16 miles. On the London and Blackwall Railway. Great Western Railway, from London to Slough, 18 miles—the Windsor Telegraph. York and North Yorkshire Railway, a "Single Way," 20 miles. London and North Western Railway, from Tunbridge to Maidstone, a "Single Way," 15 miles. Part of the Oldham Branch Railway. Part of the Leeds and Manchester Railway. Part of the Edinburgh and Glasgow Railway. The Dalkey (atmospheric) Branch of the Dublin and Kingstown Railway. London and Birmingham Railway—viz., from Northampton to Peterborough—a "Single Line," 47 miles.

In addition to the above, the Telegraph is about to be laid down on several "single line" in different parts of England, Scotland, and Ireland. Mr. Cooke is prepared to grant licences for the use or erection of the Telegraph for entire districts of country, where the boundary can be accurately defined.

Mr. Cooke will also undertake to erect a Telegraph in any part of the United Kingdom for a fixed amount. For further particulars apply to W. Fothergill Cooke, Esq., Kidbrooke, Blackheath; or to Robert Wilson, Esq., solicitor, 1, Copthall-buildings, London.

**PROSSER'S RAILWAY ON WIMBLEDON COMMON.** ALTERATION IN TIME OF RUNNING THE TRAINS.—In future the trains will CEASE to RUN in the MORNING, but CONTINUE to RUN DAILY, from One till Seven o'clock p.m. This line of railway, of two miles in length, has been laid down at great expense, to TEST the ADVANTAGES of PROSSER'S PATENT GUIDE WHEELS. It contains gradients of 1 in 50-1 in 75—and 1 in 200; and curves of the radii of 10 chains.—Engineers and persons interested in railways are invited to inspect it. All particulars may be had of Mr. George Hadley, 38, New Broad-street, City.

**IRISH WASTE LAND IMPROVEMENT SOCIETY,** 5, St. Mildred's-court, Roultry, London.—Notice is hereby given, that the NEXT HALF-YEARLY GENERAL MEETING of shareholders of this society will be HELD at the King's Head Tavern, in the Poultry, London, on Thursday, the 29th of August next, at One o'clock precisely, in conformity with the provisions of the Act of Incorporation, July 24, 1845. By order of the committee, FREDERICK FRY, Secy.

**STEAM TO INDIA VIA EGYPT, MALTA, ITALY, ALEXANDRIA, AND THE PENINSULAR PORTS.** PASSAGE TO BOMBAY, MADRAS, AND CALCUTTA. The Peninsular and Oriental Steam Navigation Company BOOK PASSENGERS for CEYLON, MADRAS, AND CALCUTTA direct, by steamers leaving Southampton on the 20th, and for Alexandria, en route to Bombay, on the 1st of every month. A steamer from Southampton leaves the 1st and 20th of every month for Malta, whence are steamers to Naples, Genoa, Civita Vecchia, three times a month.

STEAM TO CORUNNA, OPORTO, VIGO, LISBON, CADIZ, AND GIBRALTAR. A steamer leaves Southampton on the 7th, 17th, and 27th of every month. Apply at the Peninsular and Oriental Steam Navigation Company's office, 51, St. Mary Axe, London, where only passages can be secured throughout.

**ARGUS LIFE ASSURANCE COMPANY.** 39, THROGMORTON-STREET, BANK. Empowered by Special Act of Parliament, 5 and 6 William IV., cap. 76. THOMAS FARCOMB, Esq., Alderman, Chairman. WILLIAM LEAF, Esq., Deputy-Chairman. Consulting Actuary—Professor Hall, M.A., of King's College.

**LOW RATES OF PREMIUMS.** In addition to the subscribed capital of £300,000, the assured have the security of the company's income of £60,000 per annum, yearly increasing, and an accumulating assurance fund, invested in Government and other available securities, of considerably larger amount than the estimated liabilities of the company.

**ANNUAL PREMIUM TO ASSURE ONE HUNDRED POUNDS.**

Age. For One Year. For Seven Years. For Life.

20 ..... £10 17 8 ..... £20 19 1 ..... £11 11 10

30 ..... 1 1 8 ..... 1 2 4 ..... 2 0 7

40 ..... 1 5 0 ..... 1 6 9 ..... 2 14 10

50 ..... 1 14 1 ..... 1 19 10 ..... 2 4 11

60 ..... 3 2 4 ..... 3 17 0 ..... 6 0 10

One third of the Whole Term premium may remain unpaid at 5 per cent. comp. int., as a debt upon the policy for life, or may be paid off at any time without notice.

The medical officers attend daily at a quarter before Two o'clock.

EDWARD BATES, Resident Director.

A liberal commission to solicitors and agents.



## HARVEY AND WEST'S PATENT VALVES, APPLICABLE TO PUMPS OF EVERY DESCRIPTION.

The superiority of these valves, as economical in respect both of trouble and expense, has been proved by the experience of their GENERAL USE for more than SEVEN YEARS.

The patentees refer to nearly all the water-works, engineers in the kingdom, by whom satisfactory testimonials have been freely given.

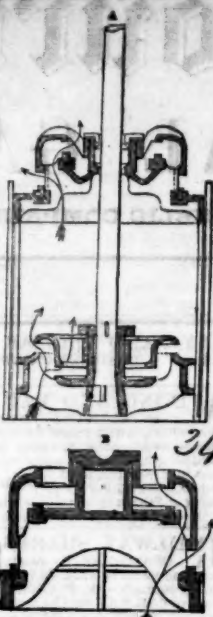
The principle adopted is that of "OBTAINING THE GREATEST WATER PASSAGE BY THE LEAST POSSIBLE PRESSURE AREA," thereby avoiding the great concussion occasioned by the closing of ordinary valves, and the loss caused by letting in air under them.

Until the invention of these valves (first used at the East London Water-Works), the most economical mode of raising water—viz., by the plunger-pump, and the principle of expansive steam, as practiced in Cornwall, was impracticable for water-works purposes.

Sketch A shows the manner in which the valves have been applied to air-pumps of steam-engines. Sketch B, the manner of their application to pumps for lifting water.

The Valves are shown open in both Sketches.

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Messrs. HARVEY and CO.,  
HAYLE FOUNDRY, CORNWALL.



## LONDON, EDINBURGH, AND DUBLIN LIFE ASSURANCE COMPANY.

4, CHARLOTTE-RUE, MANSION-HOUSE, and 18, CHANCERY-LANE, LONDON.

**DIRECTORS.**  
RICHARD SPOONER, Esq., M.P., Chairman.  
BENJAMIN HILL, Esq., Deputy-Chairman.  
The Hon. Frederick Ponsonby  
John Boyd, Esq., M.P.  
Alex. Anderson, Esq.  
John Atkins, Esq.  
Captain Brandreth  
F. Harrison, Esq.

**MEDICAL ADVISERS.**  
Marshall Hall, M.D., F.R.S.; Alexander Anderson, Esq., F.R.S.  
**SECRETARY.**—J. Emerson, Esq.  
**AUDITORS.**—R. E. Alison, Esq.; H. H. Cannon, Esq.  
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The **INDISPENSIBILITY** of the POLICIES granted by this company—  
The obligation to pay the sum assured, although the debt for which the policy was taken out may have been paid before the claim arises.  
Whole world policies not confined to the limits of Europe.  
Option of half premium payment for the first seven years.  
An annual dividend of profits among the participating class, applied to the reduction of the annual premiums.

These form a combination of advantages which can be obtained only from the London, Edinburgh, and Dublin Life Assurance Company.

A REDUCTION OF 25 PER CENT. HAS BEEN DECLARED UPON THE PREMIUMS OF ALL PARTICIPATING POLICIES OF FIVE YEARS' STANDING. ALEX. ROBERTSON, Manager.

## GREAT BRITAIN MUTUAL LIFE ASSURANCE, 14, WATERLOO-PLACE, PALM-MALL, LONDON. THE CHISHOLM, Chairman.

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**GREAT ADVANTAGES OFFERED TO POLICY HOLDERS BY THIS INSTITUTION.**

A large and immediate accession of assurances by the transfer of the policies of the "Achilles British and Foreign Life Assurance Association."

The whole of the PROFITS DIVIDED annually among the MEMBERS, after payment of five annual premiums.

An ample guaranteed capital, in addition to the fund continually accumulating from premiums, fully sufficient to afford complete security.

CREDIT given to MEMBERS for half the amount of the first five annual premiums without security.

CREDIT allowed to MEMBERS for the whole of the first five annual premiums, on satisfactory security being given for their payment.

Transfers of policies effected and registered (without charge) at the office.

Claims on policies not subject to be litigated or disputed, except with the sanction, in each case, of a general meeting of the members.

An extremely low rate of premium, without participation in the profits, but with the option, at any time within five years, of paying the difference between the reduced rates and the mutual assurance rates, and thus becoming members of the society, and entitled to a full participation in the profits.

Extract from the Reduced Scale of Rates, for an assurance of £100.

Age.	One Year.	Seven Years.	Whole Life.
20	£1 0 9	£1 1 6	£1 13 11
30	1 2 9	1 3 3	2 2 1
40	1 5 6	1 7 6	2 16 4
50	1 15 9	2 1 6	4 1 11
60	3 3 5	3 17 0	6 8 3

Full particulars are detailed in the prospectus. A. R. IRVINE, Managing Director.

## VICTORIA LIFE ASSURANCE COMPANY No. 18, KING WILLIAM-STREET, CITY.

**DIRECTORS.**  
Sir JAMES DUKE, Alderman, M.P., Chairman.  
BENJ. HAWES, Esq., Deputy-Chairman.

Benjamin Barnard, Esq.  
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The **ATTENTION** of ASSURERS is particularly directed to the detailed prospectus of this company. Assurances can be effected on a *profit* or *non-profit* scale, and for short periods at a very moderate rate. When on the life of another, the policy may be rendered secure, notwithstanding the life assured may go out of the limits of Europe without the necessary permission of the directors having been previously obtained—this plan makes a policy an *absolute security*.

Credit of half the premiums for the first five years allowed on policies effected for the whole term of life.

Premiums may be paid annually, half-yearly, or quarterly.

Advances are made to assureds on real or undoubted personal security, for terms of years, repayable by instalments. WILLIAM RAYAT, Actuary and Secretary.

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The **CORDIAL** of SYRACUSE is a stimulant and renovator in all spasmodic complaints. Nervous debility, indigestion, asthma, and consumption, are gradually and imperceptibly removed by its use, and the whole system restored to a healthy state of organisation. Sold in bottles, price 11s. and 33s.

**THE CONCENTRATED DETERGENT ESSENCE.**—An anti-syphilitic remedy for searching out and purifying the blood from venereal contamination, scurvy, blotches on the face, and body, ulcers, and those painful affections arising from improper treatment, or the effects of mercury, removing secondary symptoms, and all eruptions of the skin. Price 11s. and 33s. per bottle; also 2s. cases.

**PERRY'S PURIFYING SPECIFIC PILLS** have long been used as the most certain remedy for scurvy complaints of every description, eruptions of the skin, pimples on the face, and other disagreeable affections, the result of an impure state of the blood. These pills are perfectly free from mercury, calomel, and other deleterious drugs, and may be taken with safety without interference with or loss of time from business, and can be relied upon in every instance. Sold in boxes, at 9s. 2d., 4s. 6d., and 11s. each, by all medicine vendors—of whom may be had the *Silent Friend*.

Messrs. Perry and Co. may be consulted at their residence, 19, Berners-street, Oxford-street, daily, from eleven till two and five till eight. On Sundays from ten till twelve.

**LAMERT ON DEBILITY, NERVOUSNESS, AND ALL DISORDERS ARISING FROM EXCESS, &c.**

"He who in pleasure's downy arms  
Lies, and his health, or youthful charms,  
Ne'er lost his health, or youthful charms,  
Exclaim, 'In me behold a man  
Just published, the Seventh Edition, in a sealed envelope, price 2s. 6d.; or free by post 3s. 6d."

**SELF-PRESERVATION: A Popular Essay on those concealed disorders of the generative system, originating in solitary habits, youthful excess, or infection, and terminating in local and constitutional weakness, nervous debility, melancholy, incapacity, gonorrhoea, syphilis, indigestion, insanity, consumption, &c., with plain directions for their treatment and cure. Illustrated with cases. By SAMUEL LA'MERT, consulting surgeon, 9, Bedford-street, Bedford-square, London; Honorary Member of the London Hospital Medical Society, Licentiate of Apothecaries Hall, London, &c.**

"The various positions of lover, husband, and parent, are the inherent privileges of mankind, and, but for the accidents of mortality, would be awarded equally to all. To such, among others, this essay addresses itself; and, by its personal, many questions may be satisfactorily adjusted that admit of no appeal, even to the most confidential friend."

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At home daily, from nine to three, and from five till eight, and immediate replies sent to all letters, if accompanied by the consultation fee of 1s. for advice, &c.

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## Proceedings of Public Companies.

### CONSOLIDATED COPPER MINES OF COBRE ASSOCIATION.

At a half-yearly general meeting of the proprietors of this association, held at the office of the company, No. 26, Austinfriars, on Monday, the 21st inst., RUSSELL ELLICE, Esq. (chairman), in the chair,

The advertisement calling the meeting having been read, the following report was read:—

#### REPORT.

At the half-yearly general meeting in January last, the directors informed the proprietors, that as far as the accounts could be made up for the year 1844, the first eleven months showed an increase of produce of 1946 tons over that of the year 1843, but from causes over which they had no control, its carriage to the shipping place had been prevented to such a degree as to occasion an accumulation of 7038 tons at the mines at the end of November. Subsequently to that period, the railroad having been brought into active operation, the whole of that produce has been brought to this country, and, though the last of it has but very recently arrived, the directors are enabled to lay before the proprietors the usual audited annual account, from which it appears, that the total quantity of ore produced in 1844 amounts to 22,526 tons, being 2271 tons over that of the year 1843—whilst they are sorry to observe, that the aggregate sales have been less than 1843, though the average quality of the ore has been nearly the same. The difference in price between 1843 and 1844 constitutes a loss of 24,403l. 7s. 8d. sustained by the company from that cause, which reduces the profit on the year's account to 15,044l. 10s. 3d. This amount, with a small balance brought forward from the preceding year, makes the balance of the whole account now produced 17,007l. 10s. 4d., out of which the directors now declare a dividend of 12 per share, payable on and after Thursday, the 7th of August next.

With respect to the present state of the mines, the directors are happy to say, that, notwithstanding that a considerable falling off took place in the first months of this year in the quantity raised, in consequence of one of the lodes in the Ysabelita Mine having suddenly become almost unproductive, the agents write in June, that the prospects at that time were again very favourable in that mine, and the general produce was increasing. The directors are also happy to say, that the price of ore here has lately risen considerably, and they hope that it may continue to correspond better than it did last year with the price of copper. Last year the smelters got a better price than they did in 1843, though the ores of this company sold for 10 to 12 per cent. less than in that year.

Though the directors have the same reason to rely on the justice of the claim of this company to the church ground, and that the favourable sentence which they have obtained will be confirmed; they regret they cannot yet announce a decision on the subject.

The directors are happy to say that experiments continue to be made by various parties, both for an improved method of cleaning the ore, and of a more economical method of smelting it; the directors trust at no great distance of time that some of them will succeed, in which case they will not fail to avail themselves of any improvement in these respects which would tend to the advantage of the proprietors.

It is with much pleasure that the directors again bring under the notice of the proprietors the very zealous and unremitting exertions of their esteemed friend, Senor Don Joaquin de Arrieta. Not only does he attend closely to their interests at the Havana, but he has lately done the company a great service at St. Jago, by arranging a most difficult and embarrassing claim made upon the company for an intrusion into an adjoining mine, and for the unintentional extraction of some ore from it. Mr. Arrieta well deserves the best and warmest thanks of the proprietors.

In their last report, the proprietors were informed, that the directors had sent out Capt. William Reynolds to act jointly with his brother, until a final determination should be formed as to sending out another mercantile agent. The directors have now the pleasure to inform the proprietors that Captains William and James Reynolds have conducted the affairs of the company in Cuba so much to their satisfaction, that at present they have no intention of sending out any other agent, and they trust that those gentlemen will continue to devote the greatest diligence and energy in carrying out the views of the directors, and in enforcing economy in all branches of the expenditure that circumstances will permit.

The directors have much pleasure in making favourable mention of the industry, steadiness, and good conduct of Captain Thomas Maynard, who has recently returned to this country for a short period to recruit his health, and of the other sub-captains and miners now in Cuba, and for which they deserve the thanks of the proprietors.

It was moved by the CHAIRMAN, seconded, and carried unanimously:—That the report now read be received and adopted.

It was then moved by Mr. GREENFELL, seconded by Mr. SHIRAS, and carried unanimously:—

That this meeting desires to tender its best thanks to the Senor Don Joaquin de Arrieta for his zealous and unremitting exertions for the interests of the proprietors of this company, but more particularly for the very important service which he has lately rendered to them at St. Jago.

The following resolutions were in the same manner moved, seconded, and carried unanimously:—

That the thanks of this meeting be given to Captains William and James Reynolds, for the very satisfactory manner in which they have conducted the company's affairs at Cuba.

That the thanks of this meeting be given to Captain Thomas Maynard, the other sub-captains, and miners generally, for the industry, steadiness, and good conduct with which they continue to perform their duties to the company.

It was then moved by Mr. GREENFELL, seconded by Major CHASE, and carried unanimously:—

That the sum of 1000l. be presented to Mr. Leckie, as a gratuity for his valuable services, and that this meeting do tender their best thanks to that gentleman for the efficient discharge of all his duties as secretary to this company.

It was then moved, seconded, and carried unanimously:—That the cordial thanks of this meeting be given to the chairman and directors for their able and satisfactory management of the affairs of this company.—The meeting then separated.

### COMMERCIAL BANK OF LONDON.

The annual general meeting of the proprietors was held at the new banking-house of the establishment, in Lothbury, on Tuesday, the 22nd inst., W. R. COLLETT, Esq., M.P., in the chair.—The advertisement, calling the meeting, having been read, the CHAIRMAN opened the business of the day by expressing the great gratification he felt in meeting the proprietors for the fifth time, under circumstances of even greater prosperity and success than on any former occasion. The nature and extent of this success in the business of the bank would be best explained by the report and balance-sheet that would be submitted to them, but he could not refrain from congratulating the proprietors upon the new arrangements that had been completed for increasing their capital, which, while it would enable the directors to meet the large increase of business that had come to them, would, at the same time, clear off the whole of the preliminary expenses, that had been incurred of necessity at the commencement of a new establishment.

He was happy, also, to have it in his power to announce that, on the most substantial basis of a clear and distinct profit, the directors were enabled to declare a dividend for the past year of 6 per cent. per annum, instead of 5 per cent., as hitherto.—Mr. CUTBILL, the manager of the bank, then read the following

#### REPORT.

The directors have great pleasure in meeting the proprietors in their new house, and in laying before them for the fifth time their annual statement of the affairs of the bank. During the year the number of new accounts has been steadily increasing, and the expectations relative to extending the business of the bank, held out in the last report, have been more than realised. By the accompanying balance-sheet, it will be seen that, after making due allowance for bad and doubtful debts, and deducting all the current expenses of the past year, the net profit amounts to 87,661. 10s. 4d. The directors have the gratification of declaring a dividend for the past half-year at the rate of 6 per cent. per annum, clear of income tax. After paying the dividends, and allowing for rebate of interest upon bills not yet due, there will remain the sum of 19,941. 9s. 11d. to be added to the reserve fund. An extensive and profitable business being now established, the directors, with the full conviction that they shall be able to find employment for an additional amount of capital, have much satisfaction in announcing, that they have effected arrangements for such an increase of the number of their shares as will be sufficient to double the present paid-up capital of the bank, and at such a premium as will not only enable them to pay off the whole of the preliminary expenses, but also to make an addition to the amount of the reserve fund. The directors, having availed themselves of the power granted to them at the last annual meeting to declare half-yearly dividends, propose to continue this practice in future, believing that it will be in accordance with the wishes of the proprietors. In compliance with provisions of the Deed of Settlement, the following directors retire from office, and, being eligible, offer themselves for re-election:—J. A. Douglas, E. Oxenford, E. Rennie, and J. Newell; and, their being two vacancies in the direction, the undersigned proprietors have offered themselves as candidates for election:—E. Cotton and J. Savage.

#### Balance-Sheet.

Capital subscribed	£500,000 0 0
Dividends paid-up	100,000 0 0
Guarantee fund and dividends invested in the purchase of 3 per Cent. Stock	2,514 1 7
Balance due to the customers of the bank	800,738 16 9
Balance carried down after deducting bad and doubtful debts, and paying all charges and current expenses	8,756 16 4
Cash in hand, Government securities, bills discounted, &c.	598,912 14 7
Cost and value of banking premises, &c.	4,000 0 0
Preliminary expenses	9,085 19 11
Balance brought down	8,756 16 4

The report and statement of account, which, from their clearness and brevity, were at once intelligible, appeared to give universal satisfaction

to the proprietors, and having been adopted and confirmed, were ordered to be circulated amongst the proprietors.—A dividend at the rate of 6 per cent. per annum was next declared, after which the four gentlemen who retired from the direction by rotation, were unanimously re-elected, for which E. Oxenford, Esq., returned thanks on behalf of himself and brother directors.—J. FRANCIS, Esq., proposed that E. Cotton, Esq., be selected to fill one of the two still vacant seats in the direction, which having been seconded by J. TAYLOR, Esq., was also unanimously agreed to.—J. S. SEWELL, Esq., next proposed, and J. AMORY, Esq., seconded, the proposition, that John Savage, Esq., be elected to a seat in the direction, which also received a unanimous affirmative.—The CHAIRMAN said, that the business of the day being now disposed of, he could not retire from the chair, in which he had felt so much gratification in presiding, without once more congratulating the proprietors upon the prosperous condition of the bank, and, at the same time, doing an act pleasing to himself and just towards their manager, by declaring that much of their success was derived from the zeal, activity, and intelligence of that very efficient officer.—Thanks were then voted to the chairman and board of directors for their attention and ability in the direction of the affairs of the bank for the past year.—After which R. WALKER, Esq., M.P., moved the thanks of the meeting to the chairman for the excellent and satisfactory manner in which he had presided over the proceedings of the day, which having been cordially responded to, the CHAIRMAN shortly returned thanks.—Mr. BLEADON said, that he thought before they dispersed, they were bound to follow up the opinion which the Chairman had so justly expressed of the valuable services of their manager, by declaring, in a vote of thanks, their entire accordance with that opinion. He, therefore, moved the thanks of the meeting to their manager (Mr. CUTBILL), for his very efficient services in their interest.—The proposition was unanimously received with marked approbation, and Mr. CUTBILL having expressed his acknowledgments for the high compliment paid to him for only doing what was his duty, and his anxious desire for the future, by the same zeal and industry in their service, to merit a continuance of their approbation, the meeting broke up.

### UNION BANK OF AUSTRALIA.

The annual meeting of the proprietors was held at the offices, Old Broad-street, on Monday, the 21st inst., J. J. CUMMINS, Esq., in the chair.—The advertisement convening the meeting having been read, the following report was read by the Secretary:—

#### REPORT.

The directors of the Union Bank of Australia feel themselves happy in being relieved, on the present occasion, of the necessity of advertising, at any length, to the commercial distress which has necessarily formed a prominent topic in several of their late reports. That distress still lingers amongst those who had previously become involved is undoubtedly true; but, as regards the Australian colonies generally, the returning tide of prosperity has evidently set in, and so long as the price of their chief staple commodity, wool, continues to be remunerative, and the colonies combine economy in their expenditure with industry and enterprise in developing the varied resources of their adopted country, and thereby increasing the amount of their exports, wealth will continue to flow in and reward the vigour of renewed commercial activity, must be a work of time, and a degree of confidence is felt in the permanence of general improvement as will encourage those who are possessed of capital to embark in new and enlarged enterprises, the immediate effect of growing wealth must be a superabundance of money, and a consequent diminution of banking profits. That such is the existing state of things, the present position of the business of this bank abundantly proves. The deposits at the branches have very considerably increased within the past year, whilst the amount of bills offered for discount has greatly fallen off; and this becomes a most remarkable circumstance, inasmuch as the bank has ceased to allow interest on deposits, and that the rate of discount has been reduced. The accumulation of the funds of the bank in London, adverted to in the last annual report, has continued throughout the entire year, the amount exceeding on the average one-half of the capital. The directors have constantly taken advantage of the opportunities which have presented themselves for employing this large sum at the best rate of interest which could be obtained, upon securities of undoubted character, keeping the funds within immediate command, should the operations of the branches require them to be called in. Still, in consequence of the low value of money so held in this country, the reduction which has thus taken place in the profits of the bank is very considerable.

There have been no new failures of any importance, nor any new bad debts created during the year; but several of the old dependencies have wound up unfavourably, the dividends upon them being less than had previously been anticipated. The estimate of loss, by bad debts, has, consequently, been increased during the year beyond the sum at the present time, to cover the amount. A reserve has been made for this purpose, in the opinion of the directors, to the entire sum believed to be bad. There are, however, debts due to the bank, not covered by securities, amounting to 24,966l. 9s., and the loss, which most probably will arise in the recovery of those debts, but which cannot now be ascertained, will form a charge upon the balance of undivided profits.

The great object of the directors, aided by the constant efforts and judicious arrangements of the inspectors, has been rather to secure the capital of the bank, than to realise a large amount of apparent profit. We have passed through a period in which a course would have involved the bank in a fearful amount of loss. The directors feel the greatest confidence in stating that this object has been attained; to this principle they are resolved to adhere, and the experience which they have had of the prudence exercised by the inspectors, in the discharge of his important trust, enables them to place entire reliance upon his fully carrying out these views upon this point. The only change of importance in the colonial arrangements during the year has been the removal of Mr. Fletcher from the management of the Launceston branch to that of the Melbourne office. Mr. Fletcher carries with him to his new appointment the universal respect of the community in which he has previously resided, and the entire confidence and esteem of the directors. He has been succeeded at Launceston by Mr. Charles Clark, late manager of the district bank, Liverpool, a gentleman recommended as being highly qualified for the office. The directors feel bound to mention the obligations which the bank is under to Philip Oaken, Esq., one of the local directors, for the readiness with which he acceded to the wishes of the directors, and consented to the removal of the Launceston branch, and the arrival in the colonies of Mr. Fletcher's successor, and for the very satisfactory manner in which he discharged the duties of that office. They have also to express their appreciation of the zeal and ability manifested by the managers generally, and the local directors, in conducting the affairs of the bank. The directors now proceed to submit their annual statements of accounts, the general result of which enables them to declare a dividend at the rate of 6 per cent. per annum on the entire paid-up capital of the bank, to be payable in London on the 4th of August, and in the colonies as soon as the inspectors shall fix, after receipt of advices.

Union Bank of Australia, June 30.

LIABILITIES.	
Bills payable	£78,450 2 0
Sundry balances	2,980 19 0
Bad debt reserve	£30,686 15 5
Ten per cent. reserve fund	35,729 16 3
Profit and loss	43,568 14 0—113,965 6 1
Total	£194,476 7 1
Paid-up capital	820,000 0 0
Total	£1,014,476 7 1

ASSETS.	
Branch accounts, balance	£412,468 4 7
Bills receivable	100,472 11 5
Stock, loans on security, and other investments	481,931 13 8
Insurance on open policies, and miscellaneous	6,978 4 2
Cash	12,634 13 1
Total	£1,014,476 7 1

STATEMENT OF PROFITS.	
Balance of undivided profit at June, 1844	£42,565 7 11
To which is now to be added the profits for the past year ending at branches Dec. 31, 1844, and at London office, June 30, 1845, after deducting all current and a proportion of preliminary expenses, and making allowance for all bad debts	£55,781 9 5
Deduct one-tenth for reserve fund	5,978 2 11—60,203 6 6
Total	£38,143 14 5
Deduct dividend paid at Midsummer, 1844	£34,600 0 0
Ditto at Christmas, 1844	24,600 0 0—49,200 0 0
Balance of undivided profit at this date	£43,868 14 5

RESERVE FUND.	
At June, 1844, as per statement	£34,151 13 4
Add to June, 1845, as above	5,978 2 11
Total	£39,729 16 3

Not included in the above balance of undivided profit, and held in addition thereto,

The CHAIRMAN said the meeting would have perceived that the directors had, on this occasion, adopted the plan of printing their statement of accounts, and placing a copy in the hands of each proprietor as he entered the room. They had done this in consequence of having seen the difficulty there was in taking down accurately items of account as they were read by the secretary, and the misapprehension which such difficulty was calculated to occasion among the proprietors with respect to the financial condition of the bank. This sometimes led to questions and discussions which, perhaps, the distribution among the meeting of printed copies of the accounts would have prevented. The directors had in their report endeavoured to place the position of the bank as distinctly as possible before the proprietors. Owing to the extraordinary degree in which discounts had fallen off in the colonies (a strong evidence of the degree in which they had been relieved from the pressure of debt) the directors had in London on June 30 the sum of 481,931l. Since that date the amount in London had increased, and at the present moment it exceeded 500,000l. With respect to the bad debts, he would observe, that to cover all that the directors had reason to apprehend to be bad, after having wiped off everything that was closed and known to be finally bad, would require 30,666l. 15s. That sum was provided for, and remained to the credit of the bad debt account. But as there existed an amount of debt due to the bank for which no security was held, and which was partly at the present moment under legal process of recovery (making, therefore, the amount



of debt likely to be recovered uncertain), the directors had thought proper to state the entire amount as uncovered, and the proprietors would have observed from the report that this sum amounted to 24,900*l.* It was apprehended that a portion of this must be lost; the directors did not mean to say that such portion would not be a large one; but the sum, whatever it might be, would come as a charge upon the balance of undivided profits. The directors, however, believed that the balance of undivided profits, which the statement of accounts showed to be 43,568*l.* 14*s.* 5*d.*, would enable them to pay the next dividend of 24,600*l.*, that was a dividend at the rate of 6 per cent. per annum, and leave 19,000*l.*—a sum sufficient to cover any loss which the directors might anticipate would arise. This would leave the capital of the bank entire, with the 10 per cent. surplus—viz., 39,729*l.* 16*s.* 3*d.*, after having wiped off all the debts the directors believed to be bad, and having reserved a sum which they thought sufficient to cover anything doubtful. When they considered the danger to which all banking establishments in the colonies had been exposed for some years, he thought they were not assuming too much, either for themselves or the inspector, when they stated their present position to be a most satisfactory one. He had in his hand an official return of all the banks in the colonies up to the 31st December last, and in which there was one item particularly deserving of notice—viz., the return since the year 1841, of the amount of bills under discount. The reduction amounted to 1,000,000*l.* This would account for so large a portion of capital having been transmitted to this country, and which must wait for employment till commerce resumed its full activity. Having made these remarks on the statement of accounts, copies of which gentlemen held in their hands, he begged to say he should be happy to answer, as far as was in his power, any questions honourable proprietors might be disposed to put to him.

Mr. LEVY thought the report a very satisfactory one, and he felt the proprietors must be of opinion that the directors had done their duty.

It was unanimously resolved, that the report be adopted and circulated among the proprietors.—Mr. Robert Carter and Mr. Thomas Young, the two directors retiring by rotation, were unanimously re-elected.—A vote of thanks was then given to the chairman and directors, for the zeal and ability with which they had conducted the affairs of the bank, and the meeting broke up.

#### IMPROVEMENTS IN THE STEAM-ENGINE.

TO THE EDITOR OF THE MINING JOURNAL.

SIR,—In considering any question, involving complex propositions, I have for some time thought, that to have first a distinct understanding of how far principles are proved, so as to admit of no reasonable doubt, and, therefore, suited to form the foundation of what we seek to prove by, or infer from, them, that much time may be saved to ourselves, in gaining a clear conception of the subject we desire to investigate, together with the advantage of narrowing the question for those who may consider it with candour and impartiality. It has also the further recommendation, that cavilling and sophistry cannot so easily slide away from the question at issue, until, by dexterity and art, it carries away the palm of victory, and thus robs mankind of the substance, whilst it beguiles them for a time with the shadow; herein, if I mistake not, consists the bulwark of science, hence the source of its rapid strides, in subduing and converting the elements into a suitable and most powerful means for alleviating the physical wants—aye, and advancing the moral and intellectual supremacy of the human race. The steam-engine differs from other machines, in that it is compounded of two distinct properties, those from which the motive power is produced, and those by which this power is made to act in any particular direction. The first is based on a few simple principles; the latter can and do assume various forms and directions. As my aim is to inquire how far the motive power may be rendered more safe, economical, and portable, I take it for granted—1st, that as air and coal are the materials from which the heat is evolved, which, as it were, gives life to the whole, it is desirable, if practicable, that this heat be evolved, as required, so as not on the one hand to pass away in waste, or in the explosion of the boiler; or, on the other, to be deficient for the work required. Next, as the expansion which heat gives to the water is the only original source of power, which, together with the fact that, by the same amount of heat, a pound of steam may be made to produce an amount of mechanical effect proportionate to the pressure, with which it first impinges upon the piston, and to the degree of rarefaction to which it may be expanded by the removal of the atmosphere. These are the two first and most prominent principles, neither of which will require proof from me to avail ourselves of these to the fullest extent consistent with safety and portability; other principles demand our consideration—first, those relative to the transmission of the heat to the water; here, too, I think, all reasonable evidence goes to show, that the thinner the plates between the water and the fire, together with as large a surface for the fire to act upon, as can conveniently be obtained, are the principles by which we may expect to realise the greatest evaporation from any given amount of coal, and, at the same time, the least deterioration of the metal in the boiler. Next comes a question of the first importance, because on it depends not only safety from explosions, but a great extension of the expansive power of steam, and, at the same time, compactness and portability, with much surface and thin metal. The kind of boiler that possesses all these properties, I apprehend there will be little question, is the tubular. Having gone thus far, we come to an opposite process; the abstraction of the heat, with the retention of the same water, thus shrunk to its primitive volume, is again passed to the boiler, there to be recharged with heat, and so on, in an almost endless succession, the same water becomes a never ceasing agent in our hands, for the realisation of the varied purposes to which the steam-engine is applicable. Of the two modes (radiation and conduction) by which heat is given off from the hotter body to the colder, the latter being the one principally employed in the condensation of the steam, I shall confine my remarks to it alone, and here, I think, we have much reason to believe, that the ultimate particles of all bodies have not only the same capacity for heat, but also receive or absorb heat with equal rapidity, and that their difference in absorbing heat, when in the solid, liquid, or gaseous form, depends, for the most part, if not altogether, upon the rapidity with which such particles can be brought into immediate contact with the hot body. Liquids in their ordinary state, when the hot body is immersed in, or the heat applied to, the bottom of them, possess this property naturally in a much higher degree than either of the other states of matter; for, although the gaseous state gives rise to currents much in the same way as the liquid, yet, when we consider the great disparity of volume between any given number of atoms in that of the gaseous state, compared with its volume in the liquid, we have little difficulty in accounting for the disparity which exists in their cooling effects, from the fact, that, in their natural state, they do not come so rapidly into immediate contact with the hot body, as must those of the liquid. If this view be correct, it follows that by artificially bringing the particles of the atmosphere rapidly into contact with the hot body, it will become as quick an absorber of heat as still water of the same temperature; it also follows, that the cooling power of water may be very much increased by the same means. To form an adequate conception of these two principles, I made many experiments, which clearly proved, that not only was the heat given off with greater rapidity by increased motion, but, also, that artificial motion becomes of the more importance, as the body we wish to cool, and the medium used for the purpose, approach each other.

I think the simple practical question, which here presents itself is, that in reference to condensing or cooling with air or water, motion becomes as essential as surface, whilst by the due combination of the two much may yet be effected by water, where it is obtainable, without throwing it into the condenser, and thereby diminish much of the resistance to the air-pump, as well as preventing the injurious effects from deposit on the boiler and fuel; and, where water is not obtainable, we certainly can realise all the advantages by the air alone, a supply of which is always at hand, though we should dart at a railway speed of 100 miles per hour. On reviewing the forestated principles, four material questions present themselves for our consideration—first, the evolution of heat in such quantity, and at such times, as we desire; this effect we know can be realised, if we could regulate the admission of air into the furnace, so as to cause heat to be evolved, in proportion as we draw it off from the boiler in the steam—I have previously given a description of the manner by which I effect this object. I pass, secondly, to the fact, that equal weights of steam contain the same quantity of heat at all pressures when in contact with the water from which it is generated, whilst equal weights of steam will produce a greater mechanical effect, the greater the pressure under which it is generated; the certain inference from this is, that, within the range of practicability and safety, that must be the most economical system which avails itself most of this, the expansive property; all candid and unprejudiced reflection on this matter will, I think, bring us also to the conclusion that

what may be the limits of practicability and safety at any time by the then known appliances, may not be its limits when other principles are developed. Thirdly, we know for certain that fluids act equally in all directions, and that, therefore, their tendency to burst the vessel containing them, is as much dependent upon the number of square inches in the sides of the vessel or boiler, as upon the number of pounds pressure per square inch. No fact in the whole range of science is better established than this, nor any more neglected; yet, if I mistake not, it is to this fact that we must look for greater safety from boiler explosions. As this principle clearly points out the form of boiler best suited to bear pressure with safety, so also will that boiler, at some future day, be acknowledged to possess all that we require to extend the expansive principle, to insure abundance of steam, great extent of surface, with lightness, together with economy and compactness. If it be allowed us to conceive that the steam-engine hath not yet attained the universality of utility of which it is capable, then are one and all of these matters of essential importance. The fourth, and last, question arising out of the principles stated, is one on which, to a considerable degree, depends the extended practicability, whereby advantages as great, or greater, than those now realised by the Cornish engine, may be obtained in all situations, and under all circumstances—viz., the condensation of the steam, and the continual circulation of the same pure water to and fro between the engine and boiler, which, by preventing deposit, and insuring a supply of pure water, removes the difficulty hitherto experienced in the use of tubular boilers; it also does much more than this, by extending the expansive property of steam in the opposite and best direction, by the removal of the atmosphere on the production of the vacuum.

Having thus enunciated principles well established, and pointed out the direction they alone warrant us to expect any considerable extension of one of the most useful and most inexhaustible resources within the reach of man to enrich and benefit the world, and also given the experimental proof arising from the embodying of these principles, in what I have designated the universal condensing engine, which hath called forth the sneers of some, but which I have yet to learn is an inappropriate appellation, and what is more—whether it be so or not—is of very little moment as long as the evidence in attestation of the facts I have stated stand out as clear to any one, who will open their eyes and examine it, as the sun at noon-day; but, what for this?—my adversaries are numerous and powerful, and I, an individual struggling for what I deem to be true and useful. With this view before us, one is tempted to ask what can be expected but its suppression? perhaps, nothing; but, if it be founded in truth, here must their victory end, for they cannot destroy it. In conclusion, I could desire the serious attention of all candid men to the following test—of which is the direction we may fairly expect a further development of the power of the steam-engine. Here, I know not that I can do better than call up to the reader's mind the facts which hath marked its several eras, and from which, as the centres, it hath on the discovery, or application, of each successive fact, enlarged the circle of its utility; these each and all take their rise in the principles before stated—that water charged with heat becomes an elastic air, which, under such pressures as used in the steam-engine, one cubic inch of water becomes several hundred inches of steam, together with the fact, that, by the abstraction of this heat, it again becomes water. In Savory's engine, these principles were directly seen and indifferently applied. Newcomen brought to it clearer conceptions and better appliances; and Smeaton seems to have extended these principles as far as they were admissible. Watt follows, and brings to it another fact directly bearing upon the question of a given quantity of heat to produce an increased mechanical effect. The ingenuity and talent that hath been applied to it, from his day to this, have wonderfully extended, if not exhausted, this fact, or system.

Now, I merely desire the reader, as I have long desired the public, fairly to consider whether or not the facts, combinations, and results, produced experimentally by the first, and that an experimental engine, as detailed in my pamphlet, are not such as to warrant us to expect an equally extended and beneficial result. I believe I am right if I affirm that the saving in coal, consequent upon the condensation of the steam with the pure water, and other advantages attendant thereon, is equal to two-thirds, when compared with the common non-condensing engine; but, as I have long been conscious of my ill-supported position, I have always taken care to entrench myself behind the shield of truth and experiment; conscious that, without this, I should have been long ago swept away by the torrent of opposition. I will not, therefore, draw too largely upon so staunch a supporter, but put the saving at one-half. Now, for a moment, let us glance at the other part of the steam-engine, and see what chance there be of realising anything like such increased economy by any improvement in its mechanical construction. I believe that the best constructed engines do not, at present, absorb more than a fifth of their power in friction; if, therefore, we can suppose an engine so perfectly constructed, with such accurate fittings, as to move itself without steam, or other motive power, why, then, of course, we should gain one-fifth, but I have yet to learn that this be equal to one-half. It is probable that I shall be able to make some further experiments on this matter shortly; if so, I will, Mr. Editor, with your permission and indulgence, set them before the public.

Birmingham, July 23.

T. CRADDOCK.

**IMPROVEMENTS IN THE MANUFACTURE OF IRON.**—At the late meeting of the British Association, at Cambridge, Dr. Lyon Playfair read a report, prepared by Prof. Bunsen and himself, on the chemical changes occurring in iron furnaces. During many years the attention of scientific men on the continent had been directed to the employment as fuel of the combustible gases that escape from the mouths of furnaces. Dr. Playfair and Prof. Bunsen have carefully examined the gases taken from the different heights of the furnace, and gave tabulated results of their analyses, the results of which were that for the depth of twenty-four feet down the body of iron hot-blast furnaces worked with coal there is no available heat for the melting of the metal, the whole of the heat for that extent of the furnace being employed in distilling the coal. The important fact which they established by their experiments is, that in common hot-blast furnaces, as at present employed, 91 per cent. of the heating power of the fuel is lost—that is, only nine parts out of one hundred are effective, the remaining portion being carried off in gases. It was proposed, therefore, to collect the gas as it issues from the furnace mouth, and to employ it usefully in various parts of the works, though they did not recommend the re-introduction of such gas into the furnace for smelting the metal. Dr. Playfair said that these researches had led them to the consideration of a new system of manufacturing iron, which would produce a complete revolution in the present mode, but they had not had sufficient time to digest the plan to authorise them to recommend it to the association; it would form the subject of their labours for the next year.

**MALLEABLE GLASS.**—The *Ségusian Mercury* states that a most marvellous discovery has been made at St. Etienne, of rendering glass as malleable when cold as when first drawn from the pot. This substance, which is called silicon, combines with various substances producing the most brilliant colours, and can also be obtained opaque or transparent as crystal; its specific gravity is 2.85, water being 1.00; it is very ductile and malleable, and neither air nor acids act upon it. The idea of discovering malleable glass is only ranked second to that of the philosopher's stone among alchemists, and the latter will doubtless be the next discovery made, for the one is as probable as the other.

**FIRE-PROOF CEMENT.**—An experiment, to test the qualities of Yates's fire-proof cement for buildings, took place in the fire police-yard, Clarence-street, Manchester, and which proved highly satisfactory. A wooden hut having been erected, six feet high, with a gable roof, and an opening to act as a chimney, it was plastered, in the usual manner, on the inside, over lathes, with the fire-proof cement. At two o'clock in the afternoon a fire was kindled inside, and kept up to a great height; pieces of different kinds of metal were suspended from the roof, and so intense did the heat at last become that the brass melted, showing 1700 deg. Fah. After being extinguished, the wood-work was carefully examined, and found unimpaired, having been completely protected by the cement. It is applicable, not only to walls and ceilings, but pillars and floors; and, in fact, any part of a building may be coated with it. It takes a high polish, and has a very ornamental appearance.

**PHOSPHORATED COMPOUNDS.**—M. P. Thenard has discovered that, by passing a stream of chlorhydrate of methylene over the phosphuret of lime in excess, at a temperature varying from 180 deg. to 300 deg., he obtained five new bodies, two solid and three liquid. He only analysed one of the latter; it is a new colourless liquid, of a hot and bitter taste, of a smell which bears a great similarity to that of ammonia boiling at a heat of between 40 deg. and 41 deg. (centigrade), easily absorbing oxygen, and being then changed into an acid.

Some merchants at Hamburgh have sent a large quantity of ice to Brazil, and expect that it will prove a most profitable speculation.

#### MINING IN RUSSIA.

According to an official statement, the production of the precious metals during three periods of ten years each, in the Russian empire, is thus stated, as calculated into kilogrammes:—

	GOLD NOT REFINED.		
	1813-23.	1823-33.	1833-43.
Crown mines .....	2,835	1,815	25,897
Private mines .....	618	29,890	37,108
Total .....	3,453	30,705	63,005

Of this production 97,500 kilogrammes were from the Ural mines, and about 20,000 from those of Siberia, during the thirty years.

SILVER CONTAINING GOLD.

	SILVER CONTAINING GOLD.		
	1813-23.	1823-33.	1833-43.
Crown mines in Siberia, same periods .....	212,535	200,842	199,210

These metals yielded:—

	SILVER CONTAINING GOLD.		
	1813-23.	1823-33.	1833-43.
In gold .....	7,369	44,590	78,810
In pure silver .....	188,185	187,940	189,850

From which coin struck:—

	SILVER CONTAINING GOLD.		
	1813-23.	1823-33.	1833-43.
Of the value in francs of .....	385,145,000	357,256,000	426,786,000
Or, for thirty years, to the aggregate value of .....			1,169,187,000 fr.

Since 1813, therefore, the production of gold has increased more than tenfold in Russia, whilst that of silver has made little progress.

From 1826 to 1844 coin was struck from platinum to the value of thirteen millions of francs.—According to an article in a St. Petersburg journal, understood to be founded on official documents, the following quantities and values of different coins had been struck in Russia from 1664 to 1844, that is, for 180 years:—

	Gold.	Silver.	Platina.
From 1664 to 1743 .....	1,028,445	59,298,594	—
From 1743 to 1762 .....	1,416,199	30,836,454	—
From 1762 to 1797 .....	15,937,693	70,940,817	—
From 1797 to 1801 .....	2,169,249	10,018,471	—
From 1801 to 1826 .....	48,146,431	110,263,868	—
From 1826 to 1844 .....	128,810,360	63,279,888	2,468,572

Total .....

	Gold.	Silver.	Platina.
Value altogether in silver rubles .....	191,508,401	344,638,092	3,468,572
" " in francs .....			539,615,065
" " in pounds sterling .....			2,158,460,000
" " in pounds sterling .....			84,314,853

This sum is equivalent, as measured by the actual course of metallic values, to 545,360,317 silver rubles. There was struck besides copper coins for the value of more than fifty millions of silver rubles.

#### THE MINES OF ALGERIA.

An interesting, and also a correct account, of Algeria, or Northern Africa, is now likely to be obtained, as the French Government has appointed a commission to inquire into its mineral resources, its agricultural productions, and the commercial benefits likely to be derived by the colonists, who are emigrating to this once barbarous territory, and den of pirates. M. Benou, a member of the scientific commission, remarks that, although Algeria is not a country very abundant in mines, it offers many favourable resources to mining operations. The nature of these mines varies so much, that it would be rather difficult to classify them, but the following are the most abundant:—Magnetic iron, in the environs of Constantine; lignite, near Smedon; sal gemma, near Mila; lead at Buthaleh; oxide of manganese and sulphate of lead, in the vicinity of Argel; grey copper and carbonate of iron, in the wood of Olivais, between the defile of Muzia and Medeah; iron, near Miliana; lead at Onaniseris; iron, lead, and copper, to the south of Mascara; magnetic iron at Bona. The soil in the vicinity of the city of Bona incloses streaks of oxidised magnetic iron, or oxidulated iron, but not to any very great extent. These mines, it appears, have been partly explored in former times, as the superficies of the earth displays, and according to the early Arabian records. The position of the above mines is very favourable, the minerals they contain very rich, and of excellent quality. The adjacent woods would be of great advantage in working them, and small merchant vessels enter the river as high as the foot of Ben Hamra. The want of a waterfall, capable of working wheels or any other indispensable machinery, is one great drawback to the establishing of smelting-houses in the vicinity of these mines, but workmen could be easily obtained, a part of whom might be Arabs, the same as it is in other parts. In the vicinity of Philippeville, and near the mouth of the River Onet Sefas, there is to be found magnetic iron, and other minerals. At the distance of 43 kilometres to the south-east of Constantine, there exists a copper mine which had been worked in the time of the Romans, and is called Ain-Nhas; the Arabs state that it still possesses some extensive excavations, and is rich in ore. This is in perfect accordance with the notices made in the works of many Latin authors, who state they were excavated primitively in the earlier ages. It would be very easy to explore this new mineral kingdom.

**The Lead Mines of Buthaleh.**—These mountains are situated at the distance of 50 kilometres, south of Schif, and contains some very considerable lead mines, which had been explored by the Kabylas, who extracted the galena to sell it in the different markets in the interior. This range of mountains abounds in water, and is covered with thick forests; the summits are 1815 metres above the level of the sea, and from 800 to 1000 metres above the surrounding plains. At the foot of them is the town of Schif; without leaving the plain, its ascent is very steep, and its inhabitants have not yet submitted to the French.

**Bugia.**—In the vicinity of this city is a territory occupied by a tribe of Beni-Sliman, from whence the Kabylas have brought up, at various periods, some fine specimens of specular iron, iron pyrites, sulphuret of copper, and other ore. All we know is, that these people manufacture an immense quantity of iron, and no doubt some important manufactures might be established in that quarter.

**The Copper and Iron Mines of Olivais.**—These mines, known by the name of Teniah, are 500 metres above the level of the sea. The strata is traversed by veins of carbonate of iron, in the middle of which is the grey copper mixed with a portion of sulphate of barytes, and green and blue carbonated copper; they are between 1 and 2 metres in length and thickness. This district is very rich in minerals, and by experiments made by M. Berthier, he found that they contain a large portion of antimony. There is plenty of water and wood to work them. Near Miliana, there are some very rich minerals, and Abd-el-Kader has erected several smelting-houses. In the vicinity of Argel, there are some important beds of oxidised manganese, which is equal to  $\frac{1}{10}$  of its weight of pure peroxide. A large quantity of galena has been discovered at Bazarea, also some manganese. By experiments made at the Royal School of Mines, in Paris, after the mineral had been washed, it produced 0.739 of lead, and 0.00222 of silver; and on applying nitric acid, there was found a small portion of gold in the latter. Between Tagdempt and Miliana, at the elevation of 1800 metres above the level of the sea, is Mount Onaniseris, where there are extensive lead mines; and at Mascara, 30 kilometres to the south, there are extensive lead and copper mines well known to the Arabs, and plenty of wood and running water to work them. At Oran there is a large portion of iron, and at Mila, in the vicinity of Constantine, is found a large quantity of rock salt much used by the Arabs, who dispose of it at all the neighbouring markets. In fact, there is scarcely any part of Algeria that does not offer the greatest resources to mining operations and European enterprise.

**IMPROVED METHOD OF OBTAINING COPPER FROM THE ORE.**—Mr. W. H. Ritchie has taken out a patent for an improvement in the methods hitherto adopted for reducing ores by galvanic currents—the practice hitherto having been to keep separate the solutions of copper from the exciting liquor employed. By this process, after the ores have been calcined in the usual way, they are mixed with sulphate of iron or zinc, in crystals. In roasting the ores, a quantity of sulphate of iron is also to be added, equal to about one-fifth of the copper in the ores; the calcined ore is then to be dissolved, and placed in a vessel, with a solution of sulphate of iron as the exciting liquor. A generating surface of cast-iron is then introduced, which, being connected with the copper by a plate of lead, the copper in the solution will be deposited on the leaden surface. The patentee claims for combining the sulphate of iron or zinc with the roasting ores; secondly, having the exciting liquor in connection with the copper solution; and thirdly, in using cast-iron for generating surfaces.

**MANUFACTURING POWER OF BIRMINGHAM.**—The advantages of steam machinery have made a most wonderful change in the manufactures of this country within the last forty years. At the time the small armory was burnt down in the Tower of London, when there were nearly 150,000 muskets and pistols destroyed by this greatly to be lamented catastrophe, the gun manufacturers of Birmingham immediately addressed the Government to make up the loss of so fine a display of English masonry, by entering into a contract to furnish any number that might be required, as they have such powerful machinery that they can produce a well-finished musket at the rate of one a minute. John Bull need, therefore, have no fear of not being able to procure a sufficient supply of arms on emergency.



It is with regret, at all times, that we feel called upon to advert on the conduct of parties, whose acts bear a semblance of dishonesty, or unfair dealing, and while, it must be admitted, that no enterprise requires more scrupulous care and watchfulness than mining, yet it is gratifying to find, that the instances are so few and far between, where our attention is called to matters calculated to reflect discredit and to destroy confidence, such as it is our duty on the present occasion to record. Ere we proceed to the particular matter under notice, it is gratifying, however, to be in a position to state, that one of our latest *exposés* has had the fully desired effect—justice being done to a body of adventurers, and exposure and disappointment attendant on the scheme of the would-be delinquent. We do not mince matters, nor do we consider it necessary that we should conceal transactions, or withhold names, because the parties move in a sphere which would lead the world to believe them incapable of acting improperly—indeed, we consider it is our duty to hold such parties up to the censure of the public. It will be in the recollection of our readers, that some few months since, we adverted to an attempt on the part of Mr. HUMPHRY WILLIAMS, to obtain a grant of the Wheal Francis sett, adjoining Stray Park and Cam-



borne Vean Mines, that gentleman being a member of the committee of the latter adventure, and, in such capacity, having applied to Lady Bassett for the sett. The observations we then felt called upon to make, created considerable excitement in more than one quarter, and we have reason to know that Lady Bassett expressed herself in no measured terms as to the nature of the transaction, and the advantage attempted to be taken. For a time things remained quiet, and it was somewhat doubtful as to the party to whom the grant would be made; but we are now happy to have it in our power to state, that the grant of Wheal Francis has been made in favour of the Stray Park adventurers, to the disappointment and discomfiture of the worthy committee-man. Now, then, let us proceed to notice a similar act of delinquency, which occurred in the eastern district. It is now some little time since that a sett, known as Wheal Trelawny, was taken up in the parish of Menheniot, which held forth good promise, and which has justified the expectations entertained—a course of lead having been discovered, and the prices of shares having advanced considerably. Attention was naturally directed to the ground immediately adjoining, and, as the mine-shaft was sunk near to the boundary, it became an object of importance to secure the adjacent sett, known as Wheal Mary Ann, which was the property of Miss POLLARD, a lady of the highest respectability, who, we feel assured, would never wittingly lend herself to a deception, but who, as we shall show in the end, was herself grossly deceived. Application having been made to this lady for a grant of the sett, by the agent of Wheal Trelawny on behalf of the adventurers, it was some time ere her assent was obtained; and, in the meantime, they, with the object of inducing that lady to make the grant, and, in some measure, place her in a "fix," secured two setts, which were so intimately connected with her property, as to render it indispensable that she should grant to the Trelawny adventurers if to any party. This will be better understood by supposing five distinct pieces of land as A, B, C, D, E. A belongs to the Trelawny adventurers; B and D to Miss POLLARD; and C and E to another party, whose interests the Trelawny adventurers acquire, thus becoming possessed of A, C, and E (the *ace* of the pack), and affording evidence, if such were necessary, of the application for the setts, made by their agent, being on their behalf. Matters went on, and, in time, Miss POLLARD agreed to make the grant to PETER CLYMO (the purser of Trelawny), JAMES CLYMO (one of the principal adventurers), and EDWARD LYNE (the lawyer to the company), upon receiving 1000*l.* down, 1000*l.* out of first profits, and twelve free shares, and, accordingly, a lease was executed. The document, we presume, was drawn in the usual manner, and was made out to these parties, and their co-adventurers, and it is only natural to suppose, that their co-adventurers were those interested in Wheal Trelawny, on whose behalf the application was made; but a slight difference of opinion appears to have been entertained on this point, and hence the awkward position in which we now find things. But to continue our narrative. The grant thus having been secured and held, as the Trelawny adventurers were led to believe, in trust for them, according to their relative proportions or interest in that mine, was, however, claimed by the three "worthies" whose names we have given, but who liberally expressed their readiness to give to the Trelawny adventurers 1-25th share in the Wheal Mary Ann sett to every 1-130th held in Trelawny, which, added to the twelve free shares reserved to Miss POLLARD, making together 142, would leave to their own "check" no less than 114 shares, which, as they are valued in the market at 35*l.* or 40*l.* a share, would be something like a "pull" of 4000*l.* to 5000*l.*—no small trifle at starting. Now, it is quite clear, that these gentlemen would not be so liberal as to present 130 shares, which, at 40*l.* per share, are worth 5200*l.*, without there was some legal and moral claim on the part of the Trelawny adventurers, and it appears to us, that, if they have claim to a part, they have a *bona fide* right to the whole, and that a division is nothing more nor less than a shameful attempt to mulct the shareholders of their rights.

The levels of Wheal Trelawny are, we understand, driven within six fathoms of the sett in question, and the only stipulation we are aware of, made by Miss POLLARD, is, that the ore produced from her ground shall be kept and parcelled distinct, although the "three worthies" would wish to convey the impression, that Miss POLLARD would not grant to the Trelawny adventurers—yet we find that the purser, one of the largest shareholders, and the lawyer, who are the grantees, at once propose to present the Trelawny adventurers with a majority of the shares, being 130, and consequently the management; it is farcical, and the attempt would create a smile, were it not that it involves character, and as seriously reflecting upon that of the parties mixed up in the transaction, whose names we have given, is sincerely to be regretted.

Under these circumstances it is not to be wondered at, that some of the adventurers should institute a slight inquiry, and take measures to secure to themselves and co-adventurers the measure of justice to which they deem themselves entitled, and hence a demand on their part for the full right and interest to which they were entitled. This was, we regret to find, met with a blunt refusal, thus leaving it no longer a matter of question, as to the quantum of honesty or principle which influenced the trio. Here we must leave the matter for the present, and have again, in conclusion, only to express the regret we feel, in thus being called upon to advert to conduct, which is calculated so much to prejudice mining pursuits and legitimate enterprise.

In another column will be found some interesting statistics respecting the mineral productions of Russia. From the report, which has been prepared for the EMPEROR OF RUSSIA, we find that the mines of gold, which have been worked since 1815, have produced to the end of 1844, 9000 pounds of fine gold, of the value of 150,000,000 effective rubles, or 24,000,000*l.* sterling. The mines of platinum have been worked since 1819, and have produced 2000 pounds of virgin platinum, representing a sum of 7,000,000 effective rubles, or 280,000*l.* The mines of gold and platinum are in the mountainous countries, Oural and Altai; two-thirds of them belong to the State—that is, the EMPEROR, and the other third to private individuals.

The exposition of the metallic resources of Berlin and Germany in general (to which we referred last week) has created very considerable interest, as the continental manufacturers are striving how far they can bring their metals to perfection, so as to avoid the importation of either iron or steel from Great Britain. The following is a return of the annual production of steel in the different countries of Europe:—

	Metric quintals.
England	210,000
Germany	205,000
France	79,000*
Russia	32,000
Sweden	29,000
Other states	5,000
Total, 500,000 metric quintals.	

The French have within the last fifteen years greatly improved in their steel manufactures, but as machinery and coal are not yet so general as they will be in a few years hence, they cannot compete with England in this particular article of commerce, which has rendered this country the great emporium of exportation for all other parts of the globe. The native steel of Germany is gaining great renown, as that country abounds in spathose ores, which are very rich in manganese, as it is well known that from this mineral is obtained the natural steel, and as they are enabled to manufacture them at a very low price, this branch of industry has made a very rapid progress of late years, not devoting themselves much to the

\* The value of cast-steel in France was in 1842, 5,009,093 francs; other descriptions, 6,212,660 francs, since which it has increased nearly one-third.

manufacture of cemented or cast-steel. Germany possesses three very important beds of spathose ores; two form part of the Zollverein—one being situated in the Duchy of Nassau, and the district of Siegen, the other in Thuringe—the third, belonging to Austria, is in Styria, Corinthia, and the Tyrol. The Zollverein produces annually 80,000 metric quintals, and Austria 130,000; and export a considerable quantity to Russia, Holland, Belgium, and France.

In again directing attention to the nefarious proceedings of the Talacre Coal and Iron Company and its projectors, we trust that we are bringing to a close those labours, which, while they are imposed upon us in the exercise of our duty as journalists, and occupy a considerable space in our columns, have, we are well aware, lost much of their interest with the public; still it is imperative on us to follow up the investigation, until fair and ample justice be done to those whose property has been so severely sacrificed by the misdoings of others, who have, by their cunning or poverty, escaped the ends of justice, or the appliance of the scourge of morality. We, therefore, deem it incumbent on us to revert to the subject, and to place before the public such new features as the evidence submitted in our courts of law, on testimony undisputed, present—at the same time, that it is highly encouraging to find juries possessing not only ability to arrive at correct conclusions, despite the legal obstacles thrown in the way; but that the presiding judge does not hesitate to convey to them, in clear and distinct terms, not only the law, but the facts of the case, as given in evidence, observing, as he did, in his address, that "if the fraud imputed had been made out, it was as gross and abominable a fraud as any one could imagine"—this opinion seemed to be that entertained by the jury, if we are to judge by their verdict. As a report of the proceedings in Dublin, which occupied four days, will be found in our columns of to-day, it is unnecessary to dwell on the evidence, and to which we shall, therefore, merely advert, in the course of our remarks, when noticing the nature of the several proceedings.

This company had its origin in 1839, and, after an existence of some eighteen months, was discovered to be not only a bubble but a fraud, and that of the most callous and heartless nature—while it has never been mentioned in the English or Irish courts, without expressions of disgust at the concoctors, and feelings of sympathy evinced for the deluded victims. It has been the subject of repeated proceedings in our law courts—it has forced more than one proprietor into the *Gazette*—it has brought ruin and disgrace on families—it has destroyed confidence—and yet, withal, the prime mover remains untouched, and assumes the right to occupy the highest civic office which it is alone in the power of the Livery to bestow—that of Lord Mayor; while one of his former compeers is refused his certificate in a court of bankruptcy. Such, however, is life and its vicissitudes; it is not always that the rod is applied where it is most required, or that even-handed justice is dealt out by the punishment of those on whom it should fall.

We have already stated that six times have the affairs of this company been brought before the courts, besides the inquiry which took place in the Court of Aldermen, the latter resulting in what is vulgarly termed the finding (not of a verdict, but) a *mare's nest*. Yet, we believe, sufficient evidence was adduced to preclude any honest member of the court from giving his vote in favour of Alderman THOMAS WOOD as Mayor, inasmuch that the following resolutions were arrived at by the Court of Aldermen, from which, however, nothing has arisen; the legal Alderman having thought it most prudent to be quiet, and the court having no power vested in their hands to act—or we can well imagine the result.

That Alderman THOMAS WOOD was, as a principal, connected with the Talacre Company, which appeared to have been got up as a speculation, presenting no probabilities of profit, and calculated to benefit no person except those by whom it had been concocted.

That coal which was the produce of another mine, had been exhibited as the produce of the Talacre Mine; and,

That the designation and station of Alderman THOMAS WOOD, as an Alderman of London, had been used in the printed papers relating to the concern as commendatory of experiments in its available resources.

It may, perchance, be inquired, why we should so particularly dwell on the part taken by Mr. Alderman THOMAS WOOD? Let this, then, be our reply. Mr. THOS. WOOD, as Alderman and Sheriff of London, thought proper to connect himself with this scheme, and to become one of its principal projectors and agents, assuming to himself the offices of vendor, purchaser, trustee, director, and solicitor, of the company, charging 110,000*l.* for a worthless coal-field, a lease for which had been in the January preceding obtained without any premium, and at a peppercorn rent for the first twelve months: the scheme was carried out by falsehood and misrepresentation: he took to himself a share of the spoil, and, by his conduct, as a magistrate, a lawyer, and a man, forfeited the confidence of all who could be cognisant of the transaction. We find, indeed, on the 30th of May, 1842, when Lord DENMAN delivered judgment in the Court of Queen's Bench, on an application made to strike Mr. Alderman T. WOOD off the rolls, on such occasion his Lordship made use of the following words:—"The whole of this matter appears so suspicious, and, we must add, so incorrect, that Mr. WOOD has no right to complain of the rule being moved for by those who have suffered by following his advice at a time when he was solicitor of the company of which he himself was a member."

Having referred to two of the cases in which Mr. Alderman THOMAS WOOD was the principal—the application, in the one instance, being to strike him off the rolls, while his object, in the other, was that of justifying his acts in the eyes of his brother aldermen and the corporation, but in which, it is needless to say, he was unsuccessful—now proceed we to the proceedings in the several actions arising out of the fraud, which we shall condense as briefly as possible:—

In June, 1844, an action (Newburn v. Wild) was tried at Westminster Hall, before a special jury, involving a question of 2000*l.*, being the amount of certain bills given by the directors in part payment (?) of the Talacre property, the defendant being a shareholder, but in no way connected with the concoction of the scheme, when Mr. Alderman THOMAS WOOD, who, as chairman of the board and solicitor of the company, was examined on the part of the plaintiff, and proved the issuing of the bill, as also the defendant being a shareholder—the jury found a verdict for the defendant!

In the following month, we find the case, Halifax v. Verner, M.P., tried before a special jury at Guildhall, upon a claim of upwards of 8000*l.*, being the amount of a loan advanced by the firm of Glynn and Co., to Alderman THOMAS WOOD and ex-deputy Warwick Weston, in their characters as directors of the Talacre Company; the defendant being an innocent shareholder and dupe of the fraud practised, Lord Chief Baron Pollock, before whom the case was tried, charged the jury in very forcible language, at the same time that he did not hesitate to convey his opinion, that the directors and concoctors of the scheme had perpetrated a cheat on the company. It would be futile to enter upon the evidence, suffice it, that—the jury found a verdict for the defendant!!

In May, 1845, an action was brought in the Court of Queen's Bench, Dublin, and tried a second time in February of the present year, before a special jury, the parties being Howard v. Shaw, and the cause of action a claim of plaintiff, as endorser of Levason, for the amount of two notes, amounting to near 8000*l.*, given to Levason as part payment of the purchase-money, which transaction was stigmatised by Lord Denman as being so "suspicious and incorrect" on the part of Mr. Alderman THOMAS WOOD, as the solicitor advising the notes being given, he, at the same time, being also one of the vendors and purchasers, and the party, if any, liable for the demand. The second trial of this case, when the evidence was fully gone into, occupied one whole week in the hearing, to a report of which we devoted a considerable space at the time. The Lord Chief Justice (Pennefather) having charged the jury, that they should find for Mr. Shaw, if they believed from the evidence that Alderman THOMAS WOOD, Weston, Levason, and others, had been guilty of a conspiracy to defraud the public and the shareholders, and the defendant, and that the defendant had got no value for the note when he signed it—the jury found a verdict for the defendant!!!

We now arrive at the last, and, we trust, the closing scene of this disgraceful transaction; for we have a strong impression on our mind that the lawyers ought to be satisfied, and the learned alderman most certainly ought to be, if he be not even content. The proceedings in this fourth and last trial took

place last month, in the Court of Common Pleas, Dublin, before a special jury the action being Levason v. Alderman Hodges, ex Lord Mayor of Dublin. The cause of action was the recovery of the amount of another note, for 2000*l.* 3*l.* 4*d.*, being a further portion of the purchase-money of the property—forming part of the transaction before alluded to. In the course of the proceedings, the son of Alderman Wood was examined at some considerable length, whose evidence is given in our report, inserted in another column, and which is in itself so conclusive as to the rapacity displayed by the concoctors, and the nature of the scheme, that we deem it unnecessary to add more than that—the jury found a verdict for the defendant!!!!

We have thus briefly recapitulated the main features of the proceedings as connected with the Talacre Coal and Iron Company and Mr. Alderman THOMAS WOOD, and we doubt not but that the Livery of London will not fail to express their opinions, in language not to be misunderstood, whenever the legal gentleman shall again present himself to the suffrages of the Livery. We feel not a little proud that the position we have ever taken has been thus maintained, while we regret the result should have the effect of bringing discredit on parties whose position in society should have secured to them the character of being *sans peur et sans reproche*.

#### ASSAY AND ANALYSES OF MINERALS—No. IV.

##### ASSAY OF COPPER SLAG.

Very-fine powdered slag	100 grs.
Muriatic acid	200 grs.
Nitric acid	100 grs.

—digest in a long glass till the whole is gelatinised, then filter it; afterwards add ammoniac, until you receive the smell—the intensity of the blue shows the copper after a normal solution.

THE IRON TRADE ON THE CONTINENT.—The iron sales at the annual fair held at Chalons-sur-Soane, were extremely advantageous to the ironmasters. The prices of iron, of every size and description, were firmly maintained, the sales very extensive, and large orders given. In Belgium the same improvement in the demand for iron exists as in France.

IRON TRADE.—Our imports of foreign iron in 1844 were—chromate of iron, 2365 tons; pigs, 52 tons; bars unwrought, 24,483 tons; bloom iron, 524 tons; old broken and cast-iron, 97 tons; unwrought steel, 2717 tons; wrought steel and iron, entered by weight, 153 tons—ditto, entered by value, 11,905*l.* Of foreign iron in bars, 21,598 tons were retained for home consumption, and 5876 tons exported, of which 3371 tons went to India, and 1013 to our North American colonies.—Of British iron we exported that year 99,960 tons of pig-iron; 230,935 tons bar-iron; 18,980 tons bolt and rod-iron; 18,969 tons cast-iron; 1963 tons iron wire; 2490 tons of anchors, grapples, &c.; 15,654 tons in hoops, &c.; 7226 tons nails, &c.; and of all other sorts (except ordnance) 48,170 tons; of old iron, for remanufacture, 9271 tons; and of unwrought steel, 5121 tons.

THE COAL TRADE.—From the usual monthly returns of the importation of coal, culm, and cinders, from the collieries in the Newcastle, Sunderland, and other districts, for June, we find that the following number of ships and quantities of coal have been imported into London:—

	Ships.	Tons.
Newcastle	354	109,240
Sunderland	316	88,906
Stockton and Hartlepool	215	55,264
Blyth	46	11,435
Scotland	6	559
Welsh	48	10,758
Yorkshire, &c.	47	4,712
Small coal	1	250
Cinders	11	2,057

Total imported in June ..... 1044 ..... 283,010

MOVEABLE JIB CRANE.—At the Institution of Civil Engineers, a short time since, Mr. W. Gale (Glasgow) pointed out the advantages of the moveable jib crane for the purposes of building. It was stated to have been originally invented by James Watt, for the Bell Rock Lighthouse; but in a communication from Mr. R. Stevenson (Edinburgh), which was also read, with extracts from the history of that lighthouse, the invention was claimed by Mr. Stevenson. It appeared that the crane was used very extensively, but that some defects existed in its construction, for which the author suggested remedies, which he had applied successfully, and for which he gave the necessary details of calculations and drawings, without which they would be with difficulty comprehended.

M. F. Leblond, on a recent visit to the mines of Paullaouen and Huelgoat, in Brittany, to ascertain the composition of the air, found that in the galleries the air contains only from 17 to 18 per cent. of oxygen, and that in the cavities the portion falls as low as 10 per cent., without the deficiency being replaced by carbonic acid. M. Leblond attributes this fact to the presence of pyrites, which he considers becomes sulphatised by the means of the oxygen of the air.

BRECONSHIRE LEAD MINES.—The lead ore discovered in the Nantbraw estate in this county, and known by the name of the Nantbraw Lead Mines, is found to yield 80 per cent. of lead, with a small proportion of silver, having been assayed by Messrs. Johnson and Co., of Hatton-garden. Great and rapid progress is now making in opening the mines, which, it is anticipated, will be very productive, and prove highly remunerative to those who are embarked in the undertaking; the shares (of which few are to be obtained) have already obtained a high premium.

CEDRYN SLATE QUARRY.—This quarry was sold by auction, in Liverpool, on Friday last. It was put up at 2000*l.*, the estimated value being 2500*l.*; the first offer was 100*l.*, and, eventually, it was knocked down for 250*l.*, to a Mr. Williams, who lives in the neighbourhood. The sale was a forced one, under the authority of the Court of Bankruptcy.

COOMBE VALE CONSOLS.—A proposition is before the public to work this extensive sett, which adjoins Wheal Maria Mine, and an adit is being driven to prove a lode at fifteen fathoms depth, which has lately been added to the sett; it is six feet wide at surface, full of gossan and flookan, similar to those of Wheal Maria—it is a lode of much promise. The direct continuation of the rich silver-lead cross-course, in Wheal Maria, is called "Wheal Maria silver-lead lode;" it has been opened at five fathoms deep for several fathoms, and is there also seven feet wide; three separate assays of ores taken from this opening gave respectively 64 oz., 66 oz., and 92 oz. of silver to the ton of lead. Doidge's lode at surface is three and a half feet wide; the large and powerful new wheel, with pumps and machinery, is nearly completed, and the whole prospects are highly encouraging.—[From a Correspondent.]

The narrow and broad gauge question, which has of late occupied the attention of the learned of St. Stephen's, Westminster, has attracted the particular notice of our neighbours on the Continent, France, Belgium, and Germany, but the generality of the foreign scientific men are evidently in favour of the narrow gauge, as causing less vibration than the expanded one, and, when well constructed, less likely to cause accidents. As there are so many lines being constructed throughout the continent, this is a point that occupies the general attention of their engineers, and a commission has been appointed by the French and Belgian Governments, to ascertain the merits or demerits of both systems.

Railway keys is another subject that the French engineers have under their consideration, as various methods of fastening railway bars in their chairs have been tried in England, and wood keys have been very extensively employed—first, because of their simplicity; secondly, that they admit of the double-headed rail being employed; and thirdly, that the keys prevent any lateral or endways movement of the rail, but also force it firmly down on its bearing in the chair. As iron is rather expensive at the present moment, the adoption of wooden keys is likely to become general on the continent. They have these qualities—great elasticity after having been subjected to a compressing force, a quality which iron, when solid, does not possess, at least, in a very small degree. This will be resorted to for a few years, until the price of iron is diminished, then they will adopt the hollow wrought-iron keys.

SMOKE PREVENTION.—Mr. Williams, of Liverpool, has been at Northwich, fitting his hot-air apparatus to (one each of) the furnaces of John Cheshire, and C. W. Neuman, Esqs., at their respective salt-works in that neighbourhood.

TUNNEL VIADUCTS.—The Liverpool Mercury claims for Mr. De la Haye one of their correspondents, the credit of first projecting wrought-iron tunnels as a medium of railway communication under rivers, &c.

IRON FURNACES IN AMERICA.—The Pittsburgh Age says there are now in progress of erection, in and near the city, twenty-six furnaces, which will turn off between 75 and 100 tons of iron weekly.

At Bolbeze, near Toulouse, a discovery has been made of the peculiar stone necessary for lithography. It is said to be of excellent quality, and in considerable quantities.

ATMOSPHERIC BOAT.—We hear that a project is about being introduced to the Parisian public, with the view of forming a company for the construction of an atmospheric boat, which is expected to run thirty leagues an hour.



# STATISTICAL ACCOUNT OF THE PRODUCE, IMPORT, AND EXPORT OF METALS.

*Grylls's Annual Mining Sheet, from June 30, 1844, to June 30, 1845.*  
Containing the quantity of COPPER ORE sold from each Mine, British and Foreign—the Average Price per 21 cwt., and the Amount of Money—each Copper Company's Purchase—the Total Amount of Ore, Fine Copper, and Money—the Average Standard, Produce, and Price for the year, both in Cornwall and Wales—the quantity of COPPER, TIN, ZINC, and LEAD IMPORTED into, and EXPORTED from, the United Kingdom, from January 5, 1844, to January 5, 1845.

Mines.	Ore from each Mine. 21 cwt.	Amount in Money. £ s. d.	Aver. price per 21 cwt. £ s. d.
<b>CORNWALL.</b>			
Alice, Wheal.....	170	1005 8 6	5 12 6
Anna, Wheal.....	152	502 8 0	3 6 0
Bedford United Mines.....	1265	8641 15 0	6 16 6
Botallack.....	1352	12083 14 0	8 19 0
Brewer, Wheal.....	1270	6227 10 0	4 18 0
Buller, Wheal.....	1482	6562 11 0	4 11 6
Busy, Wheal.....	513	1155 9 6	2 5 0
Camborne Vein & Stray Park.....	2325	10490 13 0	4 10 0
Carn Brea Mines.....	6609	34331 3 6	5 4 0
Carn Perran.....	365	1331 17 6	3 13 0
Clifford, Wheal.....	413	2910 12 0	7 1 0
Comfort, Wheal.....	248	792 0 0	3 4 0
Condurow.....	114	512 7 6	4 10 0
Cook's Kitchen.....	890	2458 8 6	2 15 6
Consolidated Mines.....	9283	50430 7 0	5 8 6
Creag Braws.....	403	1667 11 0	4 8 0
Darlington, Wheal.....	1061	3839 16 0	3 12 6
Dolcoath.....	3620	17714 7 6	4 18 0
East Wheal Croft.....	6581	37487 19 0	5 14 0
East Pool.....	1327	9224 5 0	6 1 0
Ellen, Wheal.....	777	4249 1 6	5 9 6
Friendship & Prosper, Whls.....	6865	29959 10 6	4 14 0
Fowey Consols.....	9809	49729 12 0	5 1 6
Godolphin.....	661	6440 8 0	9 15 0
Gorland, Wheal.....	394	1774 16 6	4 1 0
Graham and St. Aubyn.....	1532	8215 13 0	5 7 0
Hallenbeagle.....	2903	12014 8 6	4 3 0
Harriet, Wheal.....	631	2423 1 6	3 17 0
Harvey's ore, slag, and dross.....	397	732 17 0	1 16 6
Henry, Wheal.....	228	1145 13 6	5 0 6
Holmabush.....	2269	16066 6 0	7 9 0
Jewel, Wheal.....	1527	8199 17 0	5 7 6
Lanivet Consols.....	622	3103 4 0	5 0 0
Lyant.....	1053	7148 1 0	6 15 0
Maiden, Wheal.....	503	2471 8 6	4 18 6
Maria, Wheal.....	494	4203 2 6	10 3 0
North Downs.....	733	4232 12 0	5 16 0
North Roskear.....	5902	34649 10 0	5 17 6
Par Consols.....	3874	28382 11 0	4 16 6
Penrithal.....	677	4411 2 0	6 10 6
Poldice.....	2796	12746 7 6	4 11 0
Providence, Wheal.....	3176	17457 1 6	5 10 0
Providence Mines.....	477	2414 13 0	5 1 6
Prudence, Wheal.....	751	2206 16 6	2 16 0
Perran St. George.....	899	3361 18 6	3 15 0
Seaton, Wheal.....	1717	8751 3 0	5 2 0
South Caradon.....	4331	25150 17 6	5 16 0
South Roskear.....	1499	7987 17 6	5 6 6
South Wheal Basset.....	3449	21472 5 6	6 4 6
South Town & Lydia, Whls.....	1667	6548 9 0	3 18 6
St. Andrew, Wheal.....	827	1887 18 6	2 5 6
St. Austell Consols.....	46	128 8 6	2 14 0
St. Ives Consols.....	79	443 16 6	5 12 6
South Wheal Francis.....	546	2511 15 0	4 12 0
Sandry small Mines.....	590	2822 13 0	4 15 6
Tregothnan Consols.....	161	310 19 0	1 18 6
Treleigh Consols.....	1489	7581 7 6	5 2 0
Trenow Consols.....	1624	13907 7 6	8 11 6
Trenwith, Wheal.....	282	2225 12 0	7 18 0
Tresavean.....	6961	28292 6 0	4 1 6
Tresavean Barrier.....	1456	10265 7 0	7 1 0
Trethellan.....	2997	11081 15 6	3 14 0
Trethell.....	1267	5794 5 6	4 11 0
Treviskey.....	494	4053 5 0	8 4 0
Trevaunance Consols.....	216	608 19 0	2 16 6
Tincroft.....	3865	19402 3 0	5 0 6
Trevaras, Wheal.....	1270	7053 8 6	5 11 0
United Hills.....	3275	13486 8 0	4 2 6
United Mines.....	13789	69175 16 0	5 0 6
Virgin, Wheal.....	1123	5216 14 0	4 13 0
Vyryan, Wheal.....	404	1643 11 6	4 1 6
Williams's East Downs.....	283	1361 15 6	4 16 6
West Caradon.....	4167	29991 13 6	7 4 0
West Fowey Consols.....	50	211 5 0	4 4 6
West Wheal Jewel.....	2004	8925 14 0	4 9 0
West Trethellan.....	179	674 5 6	3 15 6
West Wheal Treasury.....	145	594 0 0	4 2 0
<b>WALES.</b>			
Australia.....	64	598 7 0	9 7 0
Aberdovey.....	74	491 19 0	6 7 6
Bacurano.....	374	1870 2 0	5 0 0
Ballynurtagh.....	2860	9655 6 0	3 7 6
Berehaven.....	5289	3458 18 0	7 9 0
Cobre.....	18782	215196 8 0	11 9 0
Connoree.....	710	2250 18 0	3 3 6
Coptao.....	1280	22274 7 0	17 7 6
Coshon.....	412	3458 18 0	8 8 0
Chill.....	7126	108005 8 6	23 11 0
Cronebane.....	1149	5865 10 6	5 2 0
Cuba.....	3891	61164 16 0	15 14 6
Knockmahon.....	7634	49767 18 6	6 10 6
Lackamore.....	143	1168 19 6	8 3 6
Llandiloos.....	11	184 4 0	16 14 6
Llandidno.....	344	1761 18 6	5 2 6
Mt. San Fernando.....	61	532 4 6	8 14 6
San Jose (in Cobre).....	4343	68108 3 6	15 13 6
Santiago.....	5949	85768 3 6	14 8 6
Sundry small Mines.....	1165	6968 12 0	6 0 6
Tigrony.....	400	1992 17 0	5 0 6
Valparaiso.....	558	12656 11 0	22 13 6
Vigra et Cloga.....	252	737 12 6	2 18 6
Vane Slag.....	77	120 4 6	1 11 0

## Summary of the foregoing statement:—

**Cornwall.**—Average standard, 1037 10s.; average produce, 74; average price per 21 cwt., 54 6s. 3d.; fine copper, 12,239 tons 2 cwt. 3 qrs. 11 lbs.; amount of money, 835,350l. 19s. 6d.; copper ore, 157,000 21 cwt.

**Wales.**—Average standard, 87 2s.; average produce, 163 and 1-16; average price per 21 cwt., 12l. 1s. 5d.; fine copper, 10,348 tons 19 cwt. 1 lb.; amount of money, 759,998l. 14s.; copper ore, 62,950 21 cwt.

**Total.**—Cornwall and Wales.—Copper ore, 219,950 21 cwt.; fine copper 22,588 tons 1 cwt. 3 qrs. 12 lbs.; amount of money, 1,595,348l. 13s. 6d.

## Copper Ores purchased by the Smelting Companies, from June 30, 1844, to June 30, 1845.

Purchasers.	Ore. 21 cwt.	Copper. Tons c. q. lbs.	Money. £ s. d.
Mines Royal Copper Co.....	10508	956 1 0 24	67,978 17 7
English Copper Co.....	35587	3313 3 0 11	230,534 2 10
Vivian and Sons.....	40577	4325 4 0 21	303,453 17 11
Freeman and Copper Co.....	23094	2104 2 1 6	146,090 1 11
Greenfell and Sons.....	28500	2922 6 2 24	208,918 3 5
Sims, Williams, and Co.....	27569	2791 2 1 2	196,037 2 2
Williams & Co. & Crown Co.....	53315	6176 2 0 8	442,337 7 8

## The following statements are made up to January 5, 1845:—

Copper ore imported during the year, 58,405 tons 15 cwt. 4 lbs.  
Fine copper exported, 18,832 tons 14 cwt. 1 qr. 1 lb.  
Tin imported, 604 tons 5 cwt. 17 lbs.  
Tin exported, 1110 tons 16 cwt. 1 qr. 4 lbs.  
Zinc imported, 10,393 tons 1 cwt. 3 qrs. 27 lbs.  
Zinc exported, 1567 tons 16 cwt. 2 qrs. 21 lbs.  
Lead imported, 95 tons 8 cwt. 3 qrs. 19 lbs.  
Lead and lead ore exported—Lead, 14,695 tons 1 qr. 7 lbs.; lead ore, 257 tons 2 cwt.—The proportion of tin sold at the ticketings in Cornwall is so small, it has not been considered advisable to publish it.

## THE AMERICAN IRON TRADE.

According to the statistical returns recently issued by the Treasury Department of the United States, we find that there has been a very great falling off in the quantity and value of the importation of manufactured iron into that country. All arguments, bearing on the subject, being of the utmost importance to most of our readers, we readily find space for the following particulars, which we have received from an American correspondent:—"The increase in the mining and manufacture of iron in the United States, within the past year or two, has been very great, and can be attributed principally to two things—the increase in the duty upon that of a foreign manufacture, and a general improvement in the industry of the country. Improvements have been introduced into the manufacture, and the increase in the number of furnaces erected has given additional impetus to mining, and also created a competition in mining and manufacturing, which must prove very advantageous and beneficial to the consumers. The increase in the manufacture of iron in the rough state, has not been more rapid than the increase in the manufacture of all the necessary articles required in the various mechanical business of the country. By the above returns, it will be found that the importation of nails, spikes, cables, chains, anchors, castings, sheet and hoop iron, and many other manufactures, in 1844, was much smaller than in 1841; while the demand for these articles must have increased enormously, which has been supplied by similar articles of a domestic manufacture. The demand for iron must be annually increasing; and if our tables of importations show that the supplies from foreign countries are rapidly falling off, it follows that we must be supplied from internal sources. The vast amount of capital that has, within a year or two past, been employed in building up furnaces and manufacturing in every section of the country, is the best evidence in the world, that a few years will suffice to enable us to not only supply ourselves with any quantity and with every article of this manufacture, but also any external demand that may arise. At present, the most extensive iron mines and manufactories are worked in Pennsylvania, and that State is, without doubt, the great iron region of the United States. Its iron mines lay side by side with the coal mines, giving the manufacturers every facility in the world for the performance of the labor necessary. New York, New Jersey, and Maryland also possess immense tracts of iron ore, but a portion of them are at present useless, on account of the distance from facilities for transportation to the seaboard. The iron district of New York comprises the northern tier of counties, and the ore has proved equal to any yet discovered. There are already about 100 furnaces, forges, bloomeries, and rolling mills, erected in St. Lawrence, Clinton, Franklin, and Essex counties, and the State has recently established a prison in that section, where 500 convicts are to be employed in the mining and manufacturing of iron. The mineral wealth of this region is immense, and the contemplated improvements in that section, if carried out, will rapidly develop it. Capital is seeking that section for employment in the iron business, and we anticipate, it will soon be the second iron manufacturing district in the country. The immense consumption of this article in all parts of the world, must give the manufacturers active employment for many years to come, to keep up the supplies. The demand for railroad iron alone will be sufficient to employ the manufacturers of that article, and keep prices up to a remunerating point. At present, the wants for consumption exceed the supply, and this state of things must continue so long as the mania for railroad speculation rages so extensively as at this moment. The iron manufacturers of Europe cannot supply the wants for railroad iron in that section of the world, and the increase of railroad companies in this country is greater than the supply of iron for rails will permit. In 1844, the consumption of iron in England reached 1,200,000 tons, which was full as much as the manufacturers could turn out. It is estimated that the "make" of iron last year was 1,210,000 tons, and that the make of 1845 may, by exertion on the part of the iron masters, reach 1,330,000 tons. The consumption last year is estimated at 480,000 tons for the ordinary home market, and 460,000 exported, and (if the railways now making took the same last year as in the estimate for this) new railways, 150,000—1,190,000 tons. Expecting an increase of 40,000 in the export, the consumption of 1845 is estimated at 1,130,000. Two thousand miles of new railway (proposed) it is estimated, will require 676 tons for every mile, or 1,340,000 tons, half of which, it is thought, will be wanted in 1845, and half in 1846, increasing the estimated consumption of 1845 to 1,800,000 tons.

The estimate then stands—1843, 1,800,000 tons; 1846, 1,650,000 tons; 1847, 980,000 tons, to which we may add, perhaps, some 50,000 or 60,000 tons (considering all this railway, &c.), for increase in ordinary consumption and export; but this quantity cannot be supplied so fast. We may estimate (supposing that there are 200,000 tons present stock), stock 200,000 tons, make 1,300,000 for 1845, or 270,000 tons short of the demand. Demand for 1846, 1,920,000 tons; supply increased to 1,500,000, or 420,000 tons short. Demand for 1847, 1,400,000 tons; supply 1,500,000, leaving 100,000 tons stock; supplyable for 1848, 1,500,000 tons; demand, say 1,030,000 tons. We believe, however, that there is a very large over estimate made of the quantity likely to be required for new railways. Many of the projects now announced will either be completed in part only or laid aside altogether—while others, having the best support and the best localities, must be much slower in their progress than the most moderate of those engaged in them would imagine. The production of iron in Pennsylvania in 1844, was about 200,000 tons, and it is estimated that this year it will amount to about 350,000 to 400,000 tons. It is also estimated from good data that the total production of iron in the United States this year, will not fall short of 700,000 tons, and that the consumption will amount to about 800,000 tons, leaving a deficiency, to be supplied by importation, of about 100,000 tons. We annex a table exhibiting the quantity and value of iron and steel of all kinds imported into the United States for the last sixteen years:—

## Aggregate Quantity and Value of Iron and Steel imported into the United States.

Years.	Tons.	Value. \$	Per ton. \$
1823-29.....	36,314	\$2,417,292	\$66
1829-30.....	40,644	2,340,964	56
1830-31.....	51,571	2,235,363	49
1831-32.....	73,979	3,697,380	49
1832-33.....	80,289	3,371,867	41
1833-34.....	78,190	3,988,396	51
1834-35.....	77,597	3,710,193	47
1835-36.....	96,220	3,359,131	35
1836-37.....	102,866	6,363,183	62
1837-38.....	74,762	4,036,963	54
1838-39.....	115,637	6,888,596	57
1839-40.....	72,769	4,341,086	59
1840-41.....	112,111	6,020,416	44
1841-42.....	107,302	4,382,000	40
1842-43.....	87,405	1,665,651	48
1843-44.....	105,277	3,993,833	37

Total tons ..... 1,261,074      \$68,337,626      \$56

This table shows that, notwithstanding the immense increase in the consumption of iron in this country, there has not been any very great increase in the importation, and that the supplies from our own manufactories have nearly kept pace with the increased demand for consumption. The most extensive iron works in the country are those of the Mount Savage Company of Maryland. Its present capital is \$1,500,000, with power to increase it to \$3,000,000. Its stock is owned principally in Europe. These are the only works in the United States where railroad iron is manufactured to any extent, and it is calculated that 20,000 tons can be made in a year. Some of the eastern railroads now building, are supplied with rails by this company. The mines of the Mount Savage Company, and, in fact, all the iron mines of Maryland, are situated in the Cumberland coal region, which, for the manufacture of iron, is said to be superior to any other. The iron manufacturers of Great Britain already feel alarmed at the rapid increase in this business in this country. At a recent meeting of the leading firms in the South Staffordshire iron-trade, it was stated that they viewed America as a dangerous competitor, and likely to take advantage of the diminution in the foreign trade, created by the absorption of iron by the railways of Great Britain, and to supply markets now completely dependent upon them—the manufacturers of Great Britain—for the quantity required for consumption."

The commissioners of the port and harbour of Whitby having adopted the plans of Mr. Pickernell, their engineer, for the improvement of the harbour, operations for extending the east pier into deep water were commenced on the 7th instant. Forty feet of foundations, in ten stones, six feet wide by three feet thick, were laid—the bed in the rock so correctly levelled that no part of the superficies varied one inch—and the vertical notches filled with broken whinstone and cement in seventy-seven minutes. From beginning to pump the water out of the dam to the foundation stones being covered by the flowing tide two hours only intervened.

## THE IRON TRADE—PROJECTED RAILWAYS.

(Addressed to the Times by "Mercator.")

In the report from your Dudley correspondent, reference is made to the little confidence lately to be placed upon the decisions of the ironmasters at their quarterly meetings; also, to the turn-out of the workmen, and amongst these are the most essential in the manufacture of iron—the "puddlers," many of whom are about to emigrate to America. As this instability in the prices, and turn-out of the operatives, is mainly attributable to the same cause—the rate of wages—it may appear to a superficial observer somewhat extraordinary, that, in order to check an advance in the pay to the workmen, a reduction in the price of the manufactured article should take place, when all the circumstances connected with the prospects of the trade justify the maintenance of the rates for iron fixed at the quarterly meeting in March last.

The circumstances that promoted the advance in iron in the early part of this year, instead of being unchanged, are strengthened by subsequent events; and amongst the most important of these is the progress making in Parliament with the railway bills, the number that have received the Royal assent up to this time in the present session comprising lengths that together will require above 1,000,000 tons of iron. Allowing for ordinary engineering difficulties, it is computed that twenty-five miles of railway can be made in a year. Some of the foregoing lines are less and some more than this distance; but those lines that have received the Royal assent this session being all in operation at about the same time (as may be expected), and 800 tons of iron being estimated for a mile of railway between rails, extra rails at stations, conversion of pigs, chairs, pins, crossings, waggons, engines, tenders, iron girders for bridges, culverts, tanks, &c., there is reason to infer the home demand, in addition to that which has already appeared, and now being supplied for railway purposes, is sufficiently encouraging to support prices to be remunerative to the ironmasters, and enable them to give satisfactory wages to a class of men whose labour is of a nature to materially shorten their lives, that of a puddler being usually computed at thirty-five to forty years.

The quantity of railway bills before Parliament was officially stated in the House on the 6th of June to be 243, of which 140 were then before committees divided into twenty-four groups. The bills that have received the Royal assent this session are about forty in number, being a mere fractional part of the projects likely to be sanctioned. The railways arranged for, and in active progress on, the continent, and the disposition manifested by the East India directors to promote railways in India, are likewise to be noticed in considering the future demand for iron for railway purposes, which is altogether independent of the demand for ship-building and other uses to which iron is now generally applied.

The ironmasters who have contracts to complete, made at prices when the trade was first emerging from its extreme depression, will be, of course, working to considerable disadvantage while paying their workmen increased wages for making this iron, and hence the instability of the prices fixed at the late quarterly meetings, as the advanced wages cannot in every instance be applied to the iron for the supply of new contracts; but the price of iron being now so much below the average at period when the requirements in various ways were materially less important, it may be concluded, as the demand develops itself, the prospects for the future will promote higher prices to the masters and better wages to the workmen.

## MANUFACTURE OF IRON BEAMS.

Sir H. de la Beche and Mr. T. Cubitt, C.E., having been appointed by Government, as a commission, to inquire into the causes of the fall of Messrs. Radcliffe's cotton-mill at Oldham, those gentlemen have made their report, which has been presented to both Houses of Parliament by command of her Majesty. As many of the suggestions and observations contained in this document, in reference to the manufacture of iron beams, are of a practical nature, and cannot fail to be read with interest, we are induced to lay an abstract of the report before our readers. The first suggestion is as to the reprehensible practice of removing beams of cast-iron, intended for sustaining weights, red-hot from the sand. The Commissioners say:—"We consider that even good cast-iron may be rendered comparatively brittle by sudden cooling, judging from what is known on the subject of the cooling of many substances, the more sudden application of cold to a substance in igneous fusion producing the brittle quality exemplified in the various glasses; more moderate cooling furnishes compactness—while more protracted refrigeration causes, in many bodies, crystallisation, which may become of such an order, from the occurrence of large crystalline planes, as to render fracture more easy in the line of such planes, being those of least resistance, than in the intermediate state productive of compactness. Unfortunately it is considered a saving, particularly in small foundries, to remove castings red-hot from the sand. Mr. Whitworth points out that not only is room acquired, where it is so needed, in such foundries by this practice, but that a saving also is effected in the sand employed, which becomes burnt and destroyed near the castings, while the latter are annealed in the cooling." He adds—"Independently also of cracks, or rents, from unequal tension in the sudden cooling of a body of unequal thickness in different parts, we are disposed, from the reasons previously assigned, to believe that portions, being more suddenly cooled than others, especially in cases where the beams were removed red-hot from the sand, would be more brittle than such others, and hence that, the whole being anything but homogeneous, or of the same general structure, a fracture from lateral pressure might be effected in apparently a sound part of the beam." The Commissioners strongly deprecate the practice of erecting the boilers of steam-engines within factories, as in the event of accident from explosion the loss of life to the workpeople is greatly increased. They also recommend the adoption of some test or proof of the strength of cast-iron beams before they are employed in buildings, as, owing to carelessness on the part of workmen, the iron foundry from which a perfect beam may one day be turned out, may produce an inferior piece of iron the next. Besides, it is well known to those who are engaged in this manufacture, even the same furnace may afford different qualities of iron at different times, though only one quality may be desired. Hence, injustice may often be done to those engaged in such works, should inferior qualities of iron be considered as always produced at these establishments. While on the subject of cast-iron for beams, the Commissioners express their strong conviction, founded on a view of the subject, of the importance of substituting wrought-iron for cast iron, whenever it can be accomplished, and they anticipate that wrought-iron will be rolled into a sufficient size for all the uses to which large cast-iron beams are now applied, judging from the present size of rolled pieces of iron. When this shall have been accomplished a great advance will have been made in the use of iron, seeing that beams, or other large pieces of that metal, may with confidence be relied upon. They consider that when wrought-iron can be thus rolled and employed, its use will become most extensive, and its consumption for building purposes would be greatly increased, to the benefit of an important branch of our national industry. Mr. Cubitt urges the expediency of Government devoting annually 1000l. or 1500l. in premiums, for the best and strongest rolled iron beams, calculated for the use of floors, to sustain a load not under twenty-five tons, with bearings not less than twenty-four feet apart. And in order to insure a steady progress in the improvement of the manufacture of iron generally, he is of opinion that an exhibition once a year of the best samples with new forms would forward its attainment of this end. He feels convinced that if facilities were furnished for getting wrought-iron of large dimensions, very few large timbers would be used in buildings; and as iron can be produced in unlimited quantities, and the whole of the cost of its production spent in employing the labour of this country, the benefit it would produce could hardly be calculated; for, in addition to that required for our own use, an immense demand would grow up for exportation, as it would provide the means of making safe and durable fire-proof buildings—what every person desires, but which at present is very difficult to attain. Thus the community at large would be benefited by an extensive manufacture of wrought-iron, and particularly all the public works under the immediate control of her Majesty's Government. All buildings, whether used as storehouses, barracks, or hospitals, might be rendered more safe and more permanent. Large beams of wrought-iron might be very advantageously employed in shipbuilding generally, and more especially for supporting the decks over the boilers of steam-vessels. And to conclude, another step would be taken, in order to secure to the nation that pre-eminence it has hitherto maintained in the manufacture of iron.

Capt. Brandreth, R.E., F.R.S., the director-general of works; Mr. Lloyd, of Woolwich Dockyard, chief engineer and inspector of machinery; Mr. Owen, master of the metal mills at Portsmouth; and Mr. Nasmyth, machine manufacturer of Manchester, have been appointed by the Admiralty to form a committee, and to visit the several dockyards of the kingdom, for the purpose of entering into a minute examination at each, of the present mode adopted for the manufacturing of iron, copper, and all other metallic articles for the naval service.



## PRACTICAL MINERS' GUIDE.

In following up our analysis of the new edition of Mr. JOHN BUDGE'S *Practical Miners' Guide*, we next come to a treatise on cordage, its quality, manufacture, and choice, with rules and tables for the weight, and number of threads contained in any size rope; and, it is certainly most desirable, if not absolutely necessary, that every person who is intrusted with the management of a mine, should possess some means of obtaining, with a degree of certainty, the quality and weight of the ropes he may have occasion to use; otherwise, the lives and property intrusted to his care will be continually placed in jeopardy, and his employers be always subject to impositions respecting the charge; because, in many cases, from its great bulk, it cannot be weighed, and the weight, therefore, can only be ascertained by computation. There are various methods of testing the quality of hemp; but, as miners have seldom an opportunity of inspecting the article in its raw state, we shall show how it may be proved after its having been completely manufactured. The first thing that demands our particular attention is, the size of the yarn, or thread, of which the rope is composed. There is a certain gauge, or standard, for this, known among rope-makers by the terms sixteens, eighteens, twenties, &c., which means sixteen, eighteen, or twenty yarns in the strand, or third part of a rope, three inches in circumference. The following table shows the weight of the different sizes of yarn before it has gone through the operation of tarring:—

Size.	Length.	Weight.
25 .....	170 fathoms.	2 lbs. 13 oz.
20 .....		3     8
18 .....		3     15
16 .....		4     6
15 .....		4     10

Now, the true standard size for shroud laid rope is twenties; and, it is of consequence that agents should give their orders accordingly, and afterwards be assured that their ropes have really been made with yarns of this gauge. In order to prove this first girt—the circumference of the rope—then count the yarns in the strand; and, lastly, refer to the following table, and note if the number corresponds with that standing in the proper column, opposite the dimensions of the rope:—

Size of rope.	Size of yarn sixteen.	Size of yarn twenty.	Size of rope.	Size of yarn sixteen.	Size of yarn twenty.
Inch.	No.	No.	Inch.	No.	No.
2 .....	7	9	9 .....	160	200
2½ .....	10	14	10 .....	177	222
3 .....	16	20	10½ .....	196	245
3½ .....	21	27	11 .....	215	268
4 .....	28	35	11½ .....	235	293
4½ .....	36	45	12 .....	255	320
5 .....	48	55	12½ .....	278	347
5½ .....	63	67	13 .....	300	375
6 .....	84	80	13½ .....	324	405
6½ .....	105	93	14 .....	348	435
7 .....	128	109	14½ .....	374	467
7½ .....	160	125	15 .....	400	500
8 .....	192	142	15½ .....	427	535
8½ .....	228	160	16 .....	455	569
9 .....	264	180	16½ .....	484	605

Manufacturers have many inducements for spinning their yarn large; first, it is less expensive, for it requires no more time to spin a large yarn than a small one, and sixteen or seventeen yarns, by a little manoeuvring, will answer the end of twenty. Secondly, in large yarns, inferior or refuse, hemp can be spun, which cannot be done in yarns, of a smaller size, and this consideration alone should cause the agent to be exceedingly particular in having his rope made of standard yarns; and, let it be remarked, that, although a rope made of sixteens or eighteens will be nearly equal in weight to one made of twenties, yet by no means will it be equal in strength even if made of the very same kind of, or even superior, hemp; for, although it might be said, what is wanting in number is made up in bulk, it will no more support an equal weight in proportion than a body of raw hemp the size of a cable will be as strong as the cable itself. By inspecting the table, it will be seen that the strand of a sixteen inch capstan rope made of twenties, contains 569 yarns; but if made of sixteens, only 455 yarns—making a difference in the whole rope of 342 yarns. To prove the quality of the hemp and yarn, cut from the end of the rope several of the yarns in six feet lengths, and each of these should bear 70 lbs. at the least. Regard must next be paid to the last part of the manufacture called the lay, or twist, of the rope, and this should undergo a strict examination, as much depends on the skill and attention used in this part of the process; for, it is very possible that the best materials may be used, the yarn spun of the proper size, and with the greatest care, and yet the rope be very defective, and not fit to be depended on; it may be easily discovered by laying the rope in a straight line, and, if either of the strands is observed to "mount" or "fall"—that is, rise or sink above or below the others to any extent, the rope has been crippled, or inevitably spoiled; for, in the case of one strand rising, that strand will bear little or none of the weight, and the other two will break—while, if one strand sinks, that strand will break before the other two have been brought to the strain, or have borne any considerable portion of the weight. These great defects in cordage, are too often to be found, and almost as often pass unobserved; but, they may always be detected by close inspection, and thereby many of the serious injuries and fatal accidents, which so often take place in mining, happily prevented. The process of tarring is not sufficiently attended to, for as nearly all cordage used in mining is much exposed to the alternate influence of sun and moisture, which tends greatly to accelerate its decay, it ought, by all means, to contain a greater quantity of tar than is generally used—the common rule is 1 to 5½, or 1 to 6, but the proportion of 1 to 4½, or 1 to 5, would be much better; this increase we mean for standing ropes only, such as capstan-ropes, &c., as, from the comparative infrequency of their use, and the length of time they endure, they are equally liable to injury from mould and decay, as from strain and friction. The common practice of tarring the surface of the rope after it has been manufactured, is of very little service; the way recommended is by reducing the ordinary weight suspended to the lever during the process of tarring the yarn in the manufactory, when it is drawn in a body from the heated coppers through the knipper, whereby the tar being lodged in the internal part of the rope, cannot fail of preserving it under all circumstances.

In the third portion of the work is a treatise on the "Plans and Sections of Mines," in which is briefly, but clearly, laid down the best methods to be pursued for obtaining them correctly. He observes, it requires four distinct mathematical, or geometrical, drawings, to represent a mine, and the common cause of people in general not understanding the plans is because they expect too much from one single drawing; every separate plan exhibits both a true and false view of some parts of the mine, and the knowledge necessary for the observer is, what parts of the workings it is that each drawing furnishes a true delineation of; the plans required are the following—viz., ground plan, horizontal or working plan, longitudinal section, and transverse section. The ground plan is a general survey of the whole set, and every lord or landowner's bounds should be distinctly marked on it, the lodes laid down with their true position and course, and this before anything has been determined on the site for an engine-shaft; for want of this precaution how often have shafts been sunk in improper places, to the endless disadvantage of the company—in fact, there are few mines where the conductors have not had cause to regret ultimately that they had not taken another position for sinking the principal shafts, and which might have been known at the outset, if the necessary steps had been taken. The horizontal or working plan—this is the miner's chart, his guide, his right hand; whoever attempts to conduct the operations of a mine without a perfect working plan is unfit for his office, and the very circumstance of his supposing himself capable of doing so, is a certain proof of his ignorance. The longitudinal section—this is a drawing supposing a section of the ground had been cut away, and that a side view of the mine is exposed; if it is an east and west run the observer is placed at the south of the mine, and takes a panoramic north view of all the excavations. Transverse section—here also the view is taken from one end of the workings; suppose the drivings to be east and west, and the dip of the lode northerly, the observer is placed at the west end, with his face easterly, when he will have a fair view of the declinations of the shafts and winzes that have been sunk on the course of the lode, and thereby he will see all the dip and variations of the lode from the surface to the bottom of the mine. This section will exhibit a regular and correct view of all the drifts, or cross-cuts, from the shafts to the lode, and from this data, or the extreme ends of the cross-cuts, the declination of the lode will be conspicuous. The work closes with directions for the best methods of carrying on their several plans, to make them harmonise, and of utility in future workings, with a variety of established rules. A short chapter on geology closes this very useful work, which will be found of great practical utility, particularly to the young miner.

## Mining Correspondence.

## ENGLISH MINES.

## NORTH ROSSKEAR MINING COMPANY.

July 19.—An account held on the mine of profit and loss for April and May: Cost for April and May, 1843..... £2316 5 6 By ores sold..... 7406 14 1

Profit..... £5090 8 7  
Cash in hand end of March..... 2011 0 7  
Total..... £4101 9 3

From which deduct dividend, 14th July, 30l. per share, 2100l.—leaving a balance in hand of 2001l. 9s. 2d.

## HOLMBUSH MINING COMPANY.

July 22.—In the 120 fm. level, west of the cross-cut, the lode is six inches wide producing good stones of ore; in the south cross-cut the ground is favourable, for driving. In the 110 fathom level, west of Hitchins's shaft, the lode is eighteen inches wide, and worth 25l. per fathom; in the stopes, in the bottom of this level, the lode is fifteen inches wide, and worth 14l. per fathom; in the stopes, in the back of ditto, west of Hitchins's winze, the lode is twenty inches wide, and worth 28l. per fathom; in the stopes, east of ditto, the lode is fifteen inches wide, and worth 20l. per fathom; in the stopes, west of the sump winze, the lode is twenty inches wide, and worth 82l. per fathom; in the stopes, west of Lobb's winze, the lode is one foot wide, and worth 9l. per fathom; in the stopes, west of Goldsworthy's winze, the lode is one foot wide, and worth 12l. per fathom. In the 100 fathom level, west of Hitchins's shaft, the lead lode has a promising appearance, and still continues to turn out some tolerable good work; in the stopes, in the back of this level, the lode is two feet wide, and worth 30l. per fathom. In the ninety fathom level, west of Hitchins's shaft, the lode is small and poor. In the sixty-two fathom level, west of Hitchins's shaft, the lode is six inches wide, producing stones of ore. In the rise in the back of the eighty fathom level, against Bray's shaft, the ground is favourable. The engineers are getting on expeditiously with the new engine, the wall plate, main bob, cylinder bottom, and cylinder being fixed in the engine house: they will be quite prepared with their work by the time we have changed the pit-work in the shaft, which we intend commencing next week. T. RICHARDS.

## WEST WHEEL JEWEL MINING ASSOCIATION.

July 21.—The 100 fathom level east, on Wheel Jewel lode, is still worth 10l. per fathom; in the 100 west, on ditto, the lode is six inches wide, composed of spar and spots of ore. In the eighty-five east, on ditto, the lode is rather disordered; in the eighty-five west, on ditto, the lode is three and a half feet wide, worth 10l. per fathom. In the seventy west, on ditto, the lode is two and a half feet wide, worth 7l. per fathom. In the eighty-five west, on the new south lode, the lode is fifteen inches wide, composed of fine gossan and spar. The forty-two east, on Buckingham's lode, is six inches wide, unproductive. The thirty east, on Morcom's lode, is three feet wide, composed of gossan and spar; the thirty west, on Tolcarne lode, is two and a half feet wide, containing stones of yellow ore. No lode taken down in Wilkinson's engine-shaft in the past week. S. LEAN. R. JOHNS.

## TRELEIGH CONSOLS MINING COMPANY.

July 19.—Christie shaft, below the eighty, is in the country. In the end driving west, below the eighty, the lode is three feet wide, worth about 30l. per fathom. Garden's shaft, below the seventy, is sinking in the country. In the seventy, west of Good Fortune, the lode is two and a half feet wide, kindly, with stones of ore; in the seventy, east of ditto, the lode is two feet wide, but little mineral. In the sixty, west of ditto, the lode is two and a half feet wide, worth 15l. per fathom, and still likely to improve; in the sixty, east of ditto, the lode is twenty inches wide, producing stones of ore. In the fifty, west of Symons's, the lode is two and a half feet wide, worth 6l. per fathom; in the winze, below the fifty east ditto, the lode is two feet wide, worth 8l. per fathom; in the fifty cross-cut north the ground is driving at 6l. per fathom. In the thirty-four, west of ditto, the lode is twenty inches wide, producing good stones of ore and munda. In the twenty, west of ditto, the lode is eighteen inches wide, looking more kindly, producing some ore and munda. In the adit, west of ditto, the lode is eighteen inches wide, not much mineral.—W. SYMONS.

## BEDFORD UNITED MINING COMPANY.

July 21.—At Wheel Marquis there has been no lode taken down in the seventy fathom level east since last report. The lode in the fifty-eight fathom level east is two feet wide, composed of spar, munda, and ore, and presenting a much more promising appearance than it has for some time past; and in the eastern winze in the bottom of this level the lode is two feet wide, and worth 10l. per fathom; in the stopes west of the western winze in this level (the fifty-eight) the lode is two feet wide, and worth 16l. per fathom. The lode in the rise, in the back of the forty-seven fathom level west, is twenty inches wide, and worth 6l. per fathom. The men are still employed rising in the adit level. The pitches are without alteration. At Ding-Dong there has been no lode taken down in Thomas's engine-shaft for the past fortnight. At Wheel Tavistock there is no material alteration in Phillips's engine-shaft, or in the twenty-five fathom level west, the lode being two feet wide, composed of gossan, spar, munda, and ore, saving work. JAMES PHILLIPS.

## COOK'S KITCHEN MINE.

July 19.—We still continue to drive on the flookan part of North Tincroft lode. In the seventy fathom level east we have about nine fathoms more to drive to communicate with the eastern shaft, where the ground is favourable, the price for driving being 4l. per fathom. We have suspended the seventy west for the present, not having sufficient air to drive both levels at the same time, but intend to resume it as soon as the eastern end is holed to the shaft. Since our last setting day we have finished cutting plat, &c., at flat-rod shaft, and have sunk about two fathoms under the seventy fathom level, for which we are giving 12l. per fathom for ten fathoms. Eudey's lode, in the ninety-two fathom level, is three feet wide, unproductive. At Chapple's, in the 170 west, we have been carrying the lode three and a half feet wide, which is worth 35l. per fathom; we have suspended driving this level, and have set a rise in the back of the end to hole to the 160, which, when completed, will enable us to set tribute ground to great advantage; the price for rising is 2l. per fathom. Since our last we have holed the winze from the 148 to the 160, and have this day set two pitches—one east, and the other west of the winze, at 3s. 6d. in the 1l. each, allowing the tributaries 45l. per ton for the tin. We have also set the 160 fathom level to drive west on the south part of this lode to six men at 3l. 10s. per fathom; that part of the lode which we are carrying is three feet wide, and worth 10l. per fathom. The lode in the 140 east is at present unproductive, being disordered by the cross-course. Dunkin's lode, in the 160 west, is three feet wide, worth 6l. per fathom. We have not yet cut the main part of the lode in the cross-cut south from Rogers's shaft at the twenty-nine fathom level. A. EUDEY.

## UNITED HILLS MINING COMPANY.

July 22.—In Williams's shaft the ground is much the same for sinking as last reported. In the eighty fathom level, eastern end, the lode is eight feet wide, four feet ore of average quality; in the western end the lode is three feet wide, producing stones of ore. In the seventy fathom level, eastern end, the lode is eighteen inches wide, one foot good ore; west of diagonal shaft the lode is three and a half feet wide, producing but a small quantity of ore; west of James's shaft no lode broken for the past week; the lode in the winze sinking under this level, east of Williams's shaft, is seven feet wide, ore throughout, of fair quality. In the sixty fathom level, east of eastern shaft, the lode is three feet wide, one foot ore of average quality; west of James's the lode is three feet wide, two feet ore of fair quality, rather improved since survey-day; east of Harper's winze the lode is two feet wide, one foot on the north part good ore; in diagonal shaft no lode broken for the past week. In the fifty fathom level no alteration since last reported. In the thirty fathom level the lode is one foot wide, poor. In the ten fathom level the lode is two and a half feet wide, producing a small quantity of ore. At Wheel Sparrow, in the fifty fathom level, the lode in the eastern end is two feet wide, six inches on the north part producing good stones of ore; in the western end the lode is two feet wide, producing a small quantity of ore. In the forty fathom level, in the eastern end, the lode is two feet wide, ore throughout, of a coarse quality; in the western end the lode is eighteen inches wide, poor at present. In the thirty fathom level the lode is two feet wide, not producing any ore. THOMAS TREVENEN. ROBERT WILLIAMS.

## TINCROFT MINING COMPANY.

July 21.—The new engine-shaft is now completed to the ninety fathom, and commenced driving towards the lode at that level; it will occupy three weeks or a month to see the lode. The lode in the eighty east is three feet wide, producing good work for copper ore, and very promising; the lode in the west end, same level, is two and a half feet wide, producing some good work for tin and copper ore. The lode in the seventy east is two and a half feet wide, worth 25l. per fathom, leaving good back and bottom; the seventy west is worth about 7l. per fathom; the pitches in the back of the seventy, working at low tributaries, are looking excellent; we shall commence sinking Willoughby's shaft, below the seventy fathom level, in a few days. The lode in the sixty east is two and a half feet wide, producing good work for tin and copper ore, worth 10l. per fathom; the west end, same level, is at present unproductive. We shall now commence driving the fifty east in tin ground, having holed a winze from the forty on this level; we shall also be driving the forty east in tin ground, that will let at about 10s. in the 1l.; the lode in the fifty west is twenty inches wide, worth 8l. per fathom. The lode in the forty west, driving on tribute at 9s. in the 1l., is looking very promising. At Palmer's we are altering the pitwork from surface to bottom, it will occupy a fortnight more to complete it. The lode in the sixty west is four feet wide, worth 12l. per fathom, and very promising; the sixty west, on south lode, is producing some ore, and kindly. The forty-eight west, on south lode, is very promising, producing stones of ore. The levels, winzes, pitches, &c., in the south mine are producing fair quality tinstuff. Our next sale of copper ore will be the best that ever we had. WILLIAM PAUL.

## SILVER VALLEY MINING COMPANY.

July 21.—I beg to say that the masons are getting on as fast as possible in building the balance bob bed, which will be completed this week—the carpenters will then fix the bob, which they are now preparing; we shall get the foundation cleared out for the bob bed at the south shaft, in order for the masons by Friday next, and all the stone taken from the old walls, being good, will be worked in the new building, which will save the expense of raising new for the purpose. S. RICHARDS.

## CONSOLIDATED TRETOIL MINING COMPANY.

July 21.—Henwood's shaft is down to the seventy fathom level; the lode in it is much as last reported, twenty inches wide, producing good stones of ore; we are at present casing and dividing, and hope shortly to commence driving east and west at the seventy. The lode in the rise, in the back of the sixty fathom level, west of Henwood's shaft, is nine inches wide, producing some good ore, and opening tribute ground. The lode in the rise, in the back of the forty fathom level, east of Henwood's shaft, is nine inches wide, producing a small quantity of ore. H. WILLIAMS.

## CORNUBIAN MINING COMPANY.

July 21.—At the eighty-six fathom level, going east of Murray's engine-shaft, Chiverton lode is two feet wide, saving work for lead, and we consider a promising level; there is still a pretty good lode in the western end at that level (eighty-six), but which we are obliged to suspend driving for a few days, until a winze is communicated to the seventy-eight fathom level; the three pitches working on the back of the former, or bottom, level, west of engine-shaft, are much the same as reported last week—looking well. No alteration worth noticing in the tribute department at the seventy or seventy-eight fathom levels on the north lode. We sampled on Friday last, computed thirty-six tons of rich quality work. RICHARD ROWE.

## CALLINGTON MINING COMPANY.

July 21.—We are now engaged fixing a lift at the 100 fathom level. In Johnson's engine-shaft at this level, driving south, we are opening tribute ground; the lode in the north end has not been taken down. In the ninety fathom level, both north and south, the backs we are leaving will pay for taking away at a moderate tribute. In the seventy fathom level, driving south, the lode is improving, worth at present 7l. per fathom. At the north mine, in the ninety fathom level, driving north, the lode is worth 5l. per fathom; the south end is worth 9l. per fathom. In the eighty fathom level the lode is worth 4l. per fathom. In the seventy fathom level the lode is worth 6l. per fathom. We sampled on the 19th instant a rich parcel of silver-lead ores, computed eighty-four tons. J. T. PHILLIPS.

## GREAT WHEEL MARTHA CONSOLIDATED MINES.

July 19.—No material alteration has taken place either in the appearance, or in the produce, of the lode, in the shaft, sinking below the eighty-one fathom level since our last report; it is, however, a little larger, with a continuance of the soft and decomposing killas on both sides of it. The shaftmen have been engaged in fixing a lift of pumps below the seventy fathom level, which will be completed to-night. The lode in the forty fathom level end west is still disordered, owing to another small cross-course which we have just intersected; we have resumed sinking the winze in the deep adit level, the lode in which is four feet wide, of a promising appearance. The lode in the winze, sinking in the new engine-shaft adit, is seven feet wide, which is composed of quartz, containing iron and copper pyrites, and gossan, with good stones of ore; the ground at the point of the adit is favourable for driving. We regret being compelled to suspend operations in the ten fathom level east in consequence of not having sufficient air. It is our intention to ventilate it when the winze shall have been brought down to communicate with this level west, at the end of which the lode is at least eight feet wide, containing a great deal of munda, with good stones of ore. We shall sample a small parcel of ore next Friday. JOHN PRINCE. THOMAS PENALUNA.

## LEWIS MINING COMPANY.

July 21.—Kuskey's engine-shaft is five fathoms under the thirty-two fathom level; the branch in the shaft is five inches wide, with good spots of yellow and black ore, water greatly increased in above shaft, Kuskey's lode; the thirty-two fathom level west is greatly improved, being now eighteen inches wide, producing some good work for tin, with occasional stones of good quality grey ore. At the twenty fathom level west the lode is one foot wide, very much disordered by a hard channel of ground. Wheel Providence lode, in the flat rod shaft, sinking under the twenty-one fathom level, is twenty inches wide, yielding some tin and promising. At Wheel Nutt we are continuing to sink under the thirty fathom level, the ground is favourable, the lode is two feet wide, saving work for tin; the lode in the thirty fathom level west is two feet wide, producing some tin; we are also driving on the lode we cut in the south cross-cut at the thirty fathom level, lode eight inches wide, saving work for tin, underlying north. The lode in the twenty fathom level east is four feet wide, composed of munda, white iron, a soft spar, peach, &c., a very kindly lode; in the twenty fathom level west the lode is two and a half feet wide, with some good spots of black ore. The ten fathom level end east is set at 10s. in the 1l. for saving the tin; the lode in tin shaft is two feet wide, producing good work for tin; on the whole the prospects are very encouraging. SAMUEL S. NOBLE. PETER EDDY.

## HANSON MINING COMPANY.

July 21.—Stainsby's engine-shaft is now sunk eight fathoms below the adit, in which the lode is fifteen inches wide, with stones of ore regular throughout, ore of good quality, and a very kindly lode. The horse whim shaft at Treas is sinking north of the lode, and expect the lode to come into it ten fathoms below the adit; we are now under adit four fathoms in good ground. At Hanson, in the fifty-four fathom level, west of engine-shaft, the lode is twelve inches wide, with some ore. In the forty-four and thirty-one fathom levels, east of Garden shaft, the lode is small and unproductive. Z. WILLIAMS.

## FOREIGN MINES.

WEST INDIA MAIL.—The *Tweed* arrived at Southampton, on Sunday, with an unusually costly freight, consisting of \$65,000 in gold and gold dust from Jamaica, 1600l. worth of pearls from Chagres, 20,000l. of precious stones from Carthage, besides various quantities of coffee, ginger, sarsaparilla, &c.

## BRAZILIAN COMPANY.

Cata Branca, April 23.—We are again attempting to take down the arches, but I fear much dangerous ground will be met with; and, it is still doubtful if the breastwork will sustain the heavy shocks from the large masses of rock which must fall to the bottom.

April 29.—In working the first, or largest, arch, instead of finding it solid ground as was expected, it has been found worked out like an egg scooped out leaving the shell standing. This piece of ground must have been exceedingly rich to have answered the purpose of the former owners so working, as fire seems to have been the only means they used to break the stone.

May 14.—The stone broken from the arches, is now hauled by a land tackle, and carted to the stamps; this is its third day's stamping. A stone showing gold is now and then seen, but the produce of the mass is miserably poor. Gold return for five weeks to the 9th of May, 13 lb., 1 oz., 19 dwts., 20 gr.

TRENOW CONSOLS MINES.—At a meeting of the adventurers, held at the offices, 8, George-yard, Lombard-street, on the 21st instant, a dividend of 10l. per 1-25th share was declared, and a balance carried forward to the next account of 1028l. 2s. 8d.

WHEEL TRELAUNY.—The prospects of this mine still continue good, and warrant the favourable price which the shares bear in the market. In the twelve fathom adit end north there is a splendid lode sixteen inches wide, producing capital stones of ore; in the twelve fathom south the leader of the lode is one foot wide, solid lead, inclosed in, or covered with, gossan. In the twenty-two fathom level north the lode is three feet wide, the leader of which is sixteen inches big, composed of lead and fluor spar; the twenty-two fathom level south is much of the same character, and equally as good. Forty-one tons of ore were sold on the 11th inst., producing 637l.—From a Correspondent.

## MINE ACCIDENTS.

Hanson Mine.—J. Benney was killed by falling into one of the shafts. Wheel Neptune, Boscastle.—J. Dawe fell off a ladder, and was so severely injured that he died the next day.

Widnesbury.—A miner employed in a coal-pit at Hill Top, having ascended to light his pipe on bank, his foot slipped, and he was precipitated to the bottom.

Newcastle.—Through negligence, in allowing the boiler at Edmondsey Colliery to remain faulty, it exploded, by which Irwin, the engineman, was killed.

Jesmond Colliery.—For a long time some parties have been engaged sinking a shaft near Jesmond Cemetery, for the purpose of winning a colliery, intended for land sale. On Wednesday last, however, after a heavy fall of rain, the machinery used for sinking the shaft fell, owing to the earth breaking through the sides of the shaft—fortunately no lives were lost.

Bilston.—E. Walker was killed at the Bier Bed Colliery.

Cyfarthfa Iron-Works.—As W. Jones, L. Powell, D. Davies, and T. Jones, were descending the Winch Fawr in a bucket, the chain broke, and they were precipitated to the bottom, and all killed.

## ACCIDENTS IN MINES—SINGULAR SUPERSTITION.

Sir.—In the last Number of your Journal, some one has told us, that if loss of life by accident takes place in the mines of South Staffordshire, no regular work is done, although weeks may elapse, before the remains of the sufferers are discovered, and the pit is left deserted of its usual occupants, till the body is consigned to its resting place—and then he gives us the reason; and says it is not surprising, considering the habits and occupation of miners, that a superstitious dread should possess them, on occasions of any of the fearful visitations to which they are subjected, the impression on their minds being, that the spirit of the deceased haunts the scene of their labour until the mortal remains are consigned to the grave. Will any person, with common sense, believe this trader in wholesale falsehood and ignorance? He is pleased to attribute it to fear, dread, or superstition!—I say it is common decency, and the respect a pit's company show towards an unfortunate fellow-workman. T. DEAKIN.



## Current Prices of Stocks, Shares, &amp; Metals.

STOCK EXCHANGE, Saturday morning, Twelve o'clock.	
Bank Stock, 210½	Russian, 5 per Cents, 118½
3 per Cent. Reduced Ann., 99½	Spanish, 5 per Cents, 26½
Exchequer Bills, 54 5/8	ditto, 3 per Cents, 37½
Belgian, 44 per Cents, 100	Brazil, 5 per Cents, 89
Danish, 5 per Cents, —	Chili, 6 per Cents, —
Dutch, 2½ per Cents, 62½	Colombia, 6 per Cents, 17½
ditto, 4 per Cents, 99½	Mexican, 5 per Cents, 37
Portuguese, 5 per Cents, 65½	Peru, 6 per Cents, 38½

## SHARE MARKET.

**MINES.**—In shares little has been doing; prices, however, remain steady.

**RAILWAYS.**—This has been an important week in railway operations, and many have been losers and winners in these schemes, according to the chance each party considers there is of this or that line being successful. The grand announcement to the jobbers in railways is the preamble of the London and York Railway Bill having been proved by the committee of the House of Commons. The Tottenham and Farringdon-street Extension Bill has not been proved, to the disappointment of the schemers. The official intelligence that the railway department of the Board of Trade has been *crucially* abolished, and that all railway business will hereafter be transacted by the Lords of the Committee of Privy Council for Trade, in the same manner as the ordinary business in committee of the House of Lords, has caused a general satisfaction among speculators in the city, as the delay attending the decision of that distinct department of the Board of Trade, and the expenses incurred, rendered it a ruinous scheme to many. It is fortunate for them it is defunct. On the announcement of the success of the London and York Railway scheme, the shares rose to 4½ pm., but when the speculators became more calm, they receded to 4 to 4½ pm. Midland Counties, York and North Midland, and Eastern Counties, have been very flat, as well as the Cambridge and Lincoln—whilst the Great Western has improved, and remains firm at 140 pm. The business done in the House of Lords has been rather cheering to the jobbers, the following bills having been reported upon favourably—viz., the West London, London and Southampton, and the London and Coleraine. The Monmouth and Hereford Bills, the Tunbridge and Tunbridge Wells, and the Birmingham and Gloucester (Stoke Branch), have passed the Standing Orders. The Plymouth, Bodmin, and Falmouth Bills have not been so successful, as their lordships stated that, although such a line would be of great public advantage, yet a more accurate survey was desirable, so as to avoid the crossing of the Hamoaze. The preamble of the Wakefield, Pontefract, and Goole Bill was proved, but the works are to be suspended until the promoters shall again come to Parliament for powers to construct the Methley branch. In the Commons, the Manchester and Leeds, the Bolton and Leigh, Kenyon and Leigh, Liverpool and Manchester, and Grand Junction (amalgamation) Bills have passed committee, and been reported upon favourably. The expenditure on the London and York scheme in committee has exceeded 100,000, having been seventy-three days in suspense. Others have had their share in this expensive system of passing bills through Parliament. The Cambridge and Bury and the Bedford and Bury have not been proved. The greatest feeling of pleasure was evinced yesterday on the announcement that the preamble of the Direct London and Portsmouth Atmospheric Bill had been proved, and accepted by the committee of the House of Lords, who would proceed with the clauses. The Brighton and Chichester Railway (Portsmouth Extension) experienced the same success as the above; also, the Guildford and Godalming, Fareham and Portsmouth, and the Hereford and Monmouth lines. For prices we refer to our share list, and the following is the increase for the first two weeks of the second half-year's working on the several railways, compared with the corresponding weeks of 1844—

Chester and Birkenhead.....£237	London and Croydon.....£503
Eastern Counties.....758	London and South-Western.....1824
Edinburgh and Glasgow.....604	Manchester and Birmingham.....588
Glasgow and Greenock.....323	Manchester and Leeds.....1107
Glasgow, Paisley, and Ayr.....443	Midland Counties.....3545
Grand Junction.....3530	Newcastle and Carlisle.....102
Great Western.....2462	North Union.....581
Liverpool and Manchester.....2426	Preston and Wyre.....568
London and Birmingham.....5107	Sheffield and Manchester.....389
London and Brighton.....2377	South-Eastern and Dover.....5373

**JOINT-STOCK BANKS.**—British North American, 49; Union of Australia, New, 23; Colonial Bank, 15½; London Joint-Stock, 14½; Australian Bank, 33; London and Westminster, 27½.

**MESSEURS. LAMOND'S SALES.**—The following are the prices of Tuesday—

**MINES.**—Wheat Betsy (3½ pd.), 3½; Trefoil (3½ pd.), 8s.; Wheat Concord (2½ pd.), 9½; Coburn (40½ pd.), 16½; Tamar (3½ pd.), 9½; Tincroft (7½ pd.), 13½; West Wheat Concord, 3½; Blaenavon Iron and Coal (50½ pd.), 26½; Larnarhoe Wheat Maria (3½ pd.), 4½; East Tincroft (1½ pd.), 20½; West Holmbush (1½ pd.), 3½; Wheat Susan, 7½; Wheat Mary, 8½; North Wheat Maria, 1½; Combe Vale, 6½; West Wheat Jewel (10½ pd.), 6½; Great Wheat Martha (3½ pd.), 4½; North Wheat Providence (2½ pd.), 2½; Newry, Banbridge, and Belfast (2½ pd.), 2½; 19s.; Worcester, Tenbury, and Ludlow (2½ pd.), 2½; 14s. 6d.; East Indian (3½ pd.), 12s.; Galway and Kilkenny (1½ pd.), 11s. 1s.; Rotherham and Gainsborough (1½ pd.), 11s.; Ulverstone, Furness, Lancaster, and Carlisle (1½ pd.), 11s.; Diss and Colchester (1½ pd.), 11s.; Direct Norwich (2½ pd.), 9s. 6d.; Cambridge and Oxford (1½ pd.), 11s. 8s.; Goole, Doncaster, Sheffield, and Manchester (1½ pd.), 11s.; Exeter, Yeovil, and Dorset (2½ pd.), 11s.; Cornwall (3½ pd.), 2½; 13s.; Caledonian Extension (2½ pd.), 2½; Scottish Midland Extension (1½ pd.), 11s.; New Ross, Carlow, and Kilkenny (2½ pd.), 11s.; Bandon and Bantry (1½ pd.), 11s.; London and Windsor (1½ pd.), 11s.; 1s. 6d.; Shrewsbury, Hereford, and North Wales (2½ pd.), 2½; 14s.; Manchester and Birkenhead Continuation and Mold, 11s.; Newport and Abertillery (2½ pd.), 2½; 13s.; Welsh Midland (2½ pd.), 3½; 14s. 6d.; South Midland (2½ pd.), 3½; 5s. 6d.; Armagh, Coleraine, and Portrush (1½ pd.), 11s.; Direct Northern (2½ pd.), 2½; 11s.; North Devon (2½ pd.), 2½; Sheffield and Lincolnshire Junction (1½ pd.), 11s.; Essex and Suffolk (1½ pd.), 11s.; 6s. 6d.; Nottingham, Vale of Belvoir, and Grant-ham (1½ pd.), 11s.; 17s.; Central of Spain (2½ pd.), 11s. 7s. 6d.; Eastern Union Extension (1½ pd.), 2½; Paris and St. Quentin (2½ pd.), 11s. 15s. 6d.; Leuven and Jemeppe (4½ pd.), 4½; 19s. 6d.; Bourdeaux and Mediterranean (2½ pd.), 11s. 14s. 6d.; Orleans, Tours, and Bourdeaux (4½ pd.), 10s. 15s.; Great Western, fifth, (20½ pd.), 46½; Leeds and Thirsk, 5s. 6d.; North Staffordshire, Churnet, and Potteries (2½ pd.), 4½; 18s. 6d.; Cambridge and Lincoln (1½ pd.), 4½; 9s. 6d.; London and York (2½ pd.), 5s. 3s.; Oxford, Worcester, and Wolverhampton (2½ pd.), 7½; Leicester and Bedford (2½ pd.), 3½; Gt. North of France—Lafitte's Company (2½ pd.), 5s. 13s. 6d.; Boulogne and Amiens (6½ pd.), 11s.; Eastern Counties, new (4½ pd.), 11s.; Whitehaven and Furness (1½ pd.), 2½; 14s. 6d.

**RAILWAYS.**—Wexford, Waterford, and Valentia (1½ pd.), 11s.; Newry, Banbridge, and Belfast (2½ pd.), 2½; 19s.; Worcester, Tenbury, and Ludlow (2½ pd.), 2½; 14s. 6d.; East Indian (3½ pd.), 12s.; Galway and Kilkenny (1½ pd.), 11s. 1s.; Rotherham and Gainsborough (1½ pd.), 11s.; Ulverstone, Furness, Lancaster, and Carlisle (1½ pd.), 11s.; Diss and Colchester (1½ pd.), 11s.; Direct Norwich (2½ pd.), 9s. 6d.; Cambridge and Oxford (1½ pd.), 11s. 8s.; Goole, Doncaster, Sheffield, and Manchester (1½ pd.), 11s.; Exeter, Yeovil, and Dorset (2½ pd.), 11s.; Cornwall (3½ pd.), 2½; 13s.; Caledonian Extension (2½ pd.), 2½; Scottish Midland Extension (1½ pd.), 11s.; New Ross, Carlow, and Kilkenny (2½ pd.), 11s.; Bandon and Bantry (1½ pd.), 11s.; London and Windsor (1½ pd.), 11s.; 1s. 6d.; Shrewsbury, Hereford, and North Wales (2½ pd.), 2½; 14s.; Manchester and Birkenhead Continuation and Mold, 11s.; Newport and Abertillery (2½ pd.), 2½; 13s.; Welsh Midland (2½ pd.), 3½; 14s. 6d.; South Midland (2½ pd.), 3½; 5s. 6d.; Armagh, Coleraine, and Portrush (1½ pd.), 11s.; Direct Northern (2½ pd.), 2½; 11s.; North Devon (2½ pd.), 2½; Sheffield and Lincolnshire Junction (1½ pd.), 11s.; Essex and Suffolk (1½ pd.), 11s.; 6s. 6d.; Nottingham, Vale of Belvoir, and Grant-ham (1½ pd.), 11s.; 17s.; Central of Spain (2½ pd.), 11s. 7s. 6d.; Eastern Union Extension (1½ pd.), 2½; Paris and St. Quentin (2½ pd.), 11s. 15s. 6d.; Leuven and Jemeppe (4½ pd.), 4½; 19s. 6d.; Bourdeaux and Mediterranean (2½ pd.), 11s. 14s. 6d.; Orleans, Tours, and Bourdeaux (4½ pd.), 10s. 15s.; Great Western, fifth, (20½ pd.), 46½; Leeds and Thirsk, 5s. 6d.; North Staffordshire, Churnet, and Potteries (2½ pd.), 4½; 18s. 6d.; Cambridge and Lincoln (1½ pd.), 4½; 9s. 6d.; London and York (2½ pd.), 5s. 3s.; Oxford, Worcester, and Wolverhampton (2½ pd.), 7½; Leicester and Bedford (2½ pd.), 3½; Gt. North of France—Lafitte's Company (2½ pd.), 5s. 13s. 6d.; Boulogne and Amiens (6½ pd.), 11s.; Eastern Counties, new (4½ pd.), 11s.; Whitehaven and Furness (1½ pd.), 2½; 14s. 6d.

**MISCELLANEOUS.**—Upper Canada Debentures (100½ pd.), 104½; Oxford Canal (100½ pd.), 800½; Southampton Dock Company (100½ pd.), 60½; London Gas Light, 2½; Old Woolwich Steam-Packet Company (5½ pd.), 2½; Metropolitan Wood Paving Company (3½ pd.), 2½; London University (100½ pd.), 6½.

The following were the prices realised on Friday—Italian and Austrian (3½ pd.), 4½; 10s. 6d.; Perth and Inverness (2½ pd.), 2½; 1s.; Royal North of Spain (2½ pd.), 11s. 14s.; Dendro Valley (2½ pd.), 2½; 6d.; London and York (2½ pd.), 7½; 1s.; Dundalk and Enniskillen (2½ pd.), 3½; 7s. 6d.; Dublin and Galway (2½ pd.), 2½; 6s.; South Midland (2½ pd.), 3½; 14s.; East Lincolnshire (1½ pd.), 2½; Canterbury and Dover (1½ pd.), 2½; 2s.; South Eastern and Dover (2½ pd.), 2½; 4s. 4d.; 47s. 8s.; Dutch Rhenish (3½ pd.), 9½; 17s.; West Flanders (2½ pd.), 4½; 12s.; Orleans, Tours, and Bourdeaux (4½ pd.), 11s.; Jamaica Junction (1½ pd.), 6½; 17s.; ditto South Midland (1½ pd.), 6½; 9s.; Chester and Birkenhead (50½ pd.), 64½; Leicester and Bedford (2½ pd.), 4½; 15s.; Central of Spain (2½ pd.), 11s. 5s. 6d.; Waterford and Limerick (2½ pd.), 7½; National Bank of Ireland (17½ pd.), 20½; 15s.

**LEEDS, THURSDAY.**—The share market has been characterised, during the past week, by an unusual activity, accompanied by an advance in prices. Croydons are in great demand at 25½ per share; the success of a recent trial of the atmospheric principle on a portion of the line, and the anticipated triumph of their Portsmouth scheme, in the House of Commons, both combine to strengthen the opinion generally entertained of a much greater advance on the market value of this stock. Midlands have not been much affected here by the decision in favour of the London and York; for the 40½ shares there are buyers at 28½, and the meeting on Saturday, we apprehend, will dissipate any fear that may be entertained of the injurious tendency of the London and York upon the Midland interests; long before this line can compete with it, the Midlands will pay 8 per cent. from local traffic alone, and the foresight of Mr. Hudson, in obtaining possession of the Great North of England, will be fully appreciated, when it is seen how he will have the command of all the traffic coming from the north, for the midland and southern counties. The Ererwah Valley line is now before the Lords, and, we believe, will get through in the course of the week. The possession of this line by the Midlands, and the probable arrangement with the South Midland by the London and Birmingham, will enable the two great companies considerably to reduce the distance of their through route to London. Matlock and Buxtons have run up from 5½ to 7½ during the week; this line is one of the few that will maintain its value till their appearance before Parliament next spring; and its important position, and the large interest which the Midland and Manchester and Birmingham have in it, make it exceedingly probable that it will be taken up by one or other of these two companies. The Wakefield and Goole's proved its preamble in the House of Lords, with the singular limitation that the works are not to be proceeded with till a branch to Methley is brought before Parliament; the shares have been very lively at 24½. The gauge question loses nothing of its interest, as it approaches its decision; whether justly or not, it seems likely that the issue will

be in favour of the broad gauge, though perhaps a prudent committee might hesitate, before preferring their own theoretical opinions, to the practical knowledge of the ablest men in the railway world. Rugbys are at 1½, and Worcesters at 7½ per share. West Yorkshires and Junctions are much as when we last wrote, at 6½ and 7½ per share. Thirsk has improved 20s. per share, and closed at 70s. premium. Dewsbury are at 24½. Huddersfield and Manchester at 18½, and Huddersfield and Sheffield at 8½ seem disposed to go higher.

R. R. WATSON, TOOTAL, & BARFF.

**HULL, THURSDAY.**—West York, West Riding Junction, and London and York have engrossed the chief attention this week; the market for the latter to-day is in a very excited state, and 8½ per share has been paid for them, although the closing price is 7½ to 7¾. For Hull and Selby old shares we have to note an improved demand, which is not to be wondered at, but the halves (Hull and Selby halves) are singularly enough offering at lower rates. Any one, who will be at the trouble of a calculation, will find that after making full allowance for the dividend about to be paid on the old shares, and also for the difference of interest, until the Burlington line is opened, there is a clear advantage of not less than 6½ to 7½ per share, taking the present market rates, in purchasing Hull and Selby halves in preference to Hull and Selby old. This is one of the anomalies which frequently occur in share markets; it however interests buyers of halves and sellers of old.

**LATEST PRICES OF IRISH STOCKS.**—3 per Cent. Consols, 99½ to 99¾; 3½ per Cent. Stock, 101½ to 101¾; 3½ per Cent. Debentures, 93½; Long Annuities, —; Hibernian Bank, 31½; Royal Bank, 13½; National Bank, 20½; Armagh, Coleraine, and Portrush Railway, 2½; Belfast and Ballymena, 7½; Cork and Bandon, 7½; Cork and Waterford, 1½; Dublin and Belfast Junction, 8½; Dublin and Drogheda, 10½; Dublin and Kingstown, 25½; Great Southern and Western, 23½; Irish Great Western, 34½; Mining Company of Ireland, 14½; Wicklow Copper Mine, 18½; British and Irish Steam, 33½; Dublin and Glasgow ditto, 44½; Peninsular and Oriental Company, 37½.

## COPPER ORES

Sampled July 9, and sold at Pearce's Hotel, Truro, July 24, 1845.	
Mines.	Tons.
United Mines.....115	£5 17 0
ditto.....112	7 6 6
ditto.....107	6 13 6
ditto.....101	4 8 0
ditto.....91	3 14 6
ditto.....80	4 12 0
ditto.....72	4 7 0
ditto.....70	4 19 0
ditto.....67	6 1 0
ditto.....53	2 13 0
ditto.....38	6 0 0
Consolidated.....130	3 14 6
ditto.....105	4 19 6
ditto.....83	4 15 6
ditto.....81	10 1 6
ditto.....77	4 19 0
ditto.....63	7 7 6
ditto.....57	3 7 0
ditto.....55	3 7 0
ditto.....53	4 19 0
ditto.....40	3 3 6
ditto.....26	8 15 0
ditto.....2	37 0 0
South Caradon.....100	6 3 0
ditto.....89	6 5 6
ditto.....80	5 8 0
ditto.....50	5 8 0
ditto.....48	4 10 6
ditto.....45	6 3 6
Perran St. George.....61	3 17 6
ditto.....41	2 3 6
ditto.....30	7 1 6

## TOTAL PRODUCE.

United Mines.....306	£453 13 6	Hallenbeagle.....151	£311 0 6
Consolidated Mines.....4938	6 0	Wheat Sisters.....142	847 3 0
South Caradon.....412	2400 11 0	Treleigh Consols.....133	788 5 6
Perran St. George.....236	1227 11 6	Wheat Ellen.....100	647 4 0
Bolenna.....306	1227 11 6	Copper House Slag.....81	126 4 6
Par Consols.....220	1191 14 0	Wheat Anna.....64	249 12 0
Treavean.....204	890 13 6	Wheat Trevelian.....47	163 6 6
Trevelian.....191	811 0 0	Williams's East D.....33	156 7 6
Fowey Consols.....162	981 0 0	Harvey's Dross.....33	66 0 0
		Wheat Henry.....34	141 0 0

Average standard, 112½ lbs.—Average produce, 7—Average price per ton, 57s. 4d.—Quantity of ore, 3991 tons.—Quantity of fine copper, 281 tons 5 cwt.—Amount of money, 20,990½ 15s. 6d.—Average standard of last sale, 102½ lbs. 0d.—Average produce ditto, 9.

**COMPANIES BY WHOM THE ORES WERE PURCHASED.**

Mines Royal Company.....265	£1743 1 6
English Copper Company.....441	3249 19 3
Vivian and Sons.....704	3682 12 6
Freeman and Co.....462	2489 6 6
Greenfield and Sons.....872	4721 3 3
Crown Copper Company.....182	182 10 0
Sims, Williams, Neville, Druce, and Co.....182	966 16 9
Williams, Foster, and Co.....919	4428 2 3

**COPPER ORES.**—Copper ore for sale on Thursday next, at Tyack's Hotel, Camborne.—Mines and Parcells.—East Wh. Croft 53½—Tincroft 47½—Camborne Vean 41½—Grahamer and St. Aubyn 27½—South Wheat Basset 72½—Dolcoath 36½—Lanivet Consols 210—Fowey Consols 162—Trevelian 121—East Pool 100—Wheat Vryan 50—Wheat Treveas 65—Godolphin 65—Barrier 39—Trotter 46—Cundorow 40—West Wheat Treasury 12—Total, 3319 tons.

Copper ores for sale on Thursday week, at Andrew's Hotel, Redruth.—Mines and Parcells.—Carn Brea Mines 47½—Wheat Prosper 44½—United Hills 265—Par Consols 245—Trenow Consols 224—Wheat Brewer 212½—Wheat Darlington 193—West Wheat Jewel 188—Fowey Consols 163—Wheat Providence 150—Wheat Seton 125—Wheat Virgin 100—Wheat Comfort 25—North Tolgus 24—Wheat Alice 22—Wheat Hope 5.—Total, 2866 tons.

## LEAD ORE

Mines.	Tons.	Price.	Amount.
North Wheat Rose.....10	£16 0 0	£480 0 0	
ditto.....10	8 0 0	83 0 0	
Total tons, 40.—Amount of money, £563.			
Penhallow Moor.....13	£17 15 6	£223 0 6	
ditto.....6	15 15 0	94 10 0	
Total tons, 19.—Amount of money, £326 10s. 6d.			

## BLACK TIN

Mines.	Tons.	Price.	Amount.
Charlestown.....16½	£50 2 5	£839 11 10	Williams; De Tastet
ditto.....6	53 5 0	313 10 0	Bolthous; De Tastet
ditto.....3½	49 12 6	173 13 0	Bolthous and Co.
ditto.....1	44 5 0	44 5 0	Williams; De Tastet
Total tons, 27½.—Total amount, 1371½ 0s. 7d.			

## LATEST CURRENT PRICES OF METALS.

LONDON, JULY 25, 1845.			
Iron—Barrs.	Wales.	£ s. d.	Tin—Com. blocks.
London.....7	5 7 10 0		Com. bars.....0 0 4 11 0
Edinburgh.....0	0 0 8 10 0		Edinburgh.....0 0 4 11 0
Straita.....0	0 0 8 10 0		Straita.....0 0 4 11 0
Sheet.....0	0 0 11 10 0		Banca.....0 0 4 5 0
Bars.....0	0 0 10 10 0		Tin Plates—Ch. IC, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48, 50, 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, 72, 74, 76, 78, 80, 82, 84, 86, 88, 90, 92, 94, 96, 98, 100.
Scotch pig, Clyde 2 2 6 3 5 0			IX.....0 0 2 0 0
Russian, CCND.....0			Coke, IC.....0 0 1 7 0
PSI.....0			IX.....0 0 1 13 0
Gouffier 14 5 14 10 0			Lead—Sheet.....20 5 20 10 0
Archangel 0 0 0 0 0 0			common.....0 0 19 6 0
Swedish d, for arriv. 0 0 0 0 0 0			Spanish, in bd. 0 0 0 0 0
Steel, apt. 0 0 0 0 0 0			American 0 0 0 0 0
on the spot 0 0 0 0 0 0			SPLETTER (Coke) 24 0 24 5 0
kegs 0 0 0 0 0 0			Zinc—(Sheet) m export. 0 0 30 0 0
Copper—Tilt.....0	0 0 8 10 0		QUICKSILVER.....0 0 0 4 6
Tough cake.....0	0 0 8 10 0		
Best selected.....0	0 0 9 10 0		
Ordinary sheets, 16.....0	0 0 0 10 0		
bottoms.....0	0 0 0 11 0		

**IRON.**—The demand for Welsh and Staffordshire very dull; Scotch pig more in demand than being large orders in the market at 62s. 6d., but no sellers under 62s.; Swedish iron and steel continue inactive.

**COPPER.**—The prices from India per last mail being low, there are no orders for that quarter—this article is, consequently, not so buoyant as it was a week or two since.

**LEAD.**—The prices from India per last mail being low, there are no orders for that quarter—this article is, consequently, not so buoyant as it was a week or two since.

**QUICKSILVER.**—The prices from India per last mail being low, there are no orders for that quarter—this article is, consequently, not so buoyant as it was a week or two since.

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**EASTERN COUNTIES RAILWAY.**—A special meeting of the shareholders was held on Tuesday, the 22d instant, at the Shoreditch station, pursuant to the pending Order of the House of Lords, to adopt the bill for the Cambridge and Bury line.—Mr. H. BONAQUIST (the chairman) stated that the bill having been stopped in the committee of the Commons, it would be unnecessary to submit a resolution on the subject, as it could not be proceeded with this session.



## RAILWAY GAZETTE.

## THE CORNWALL RAILWAY DEFEATED.

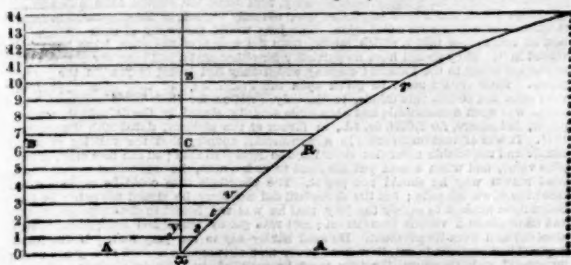
(FROM A CORRESPONDENT.)

We regret to state that the Cornwall Railway Bill has been thrown out by the committee of the House of Lords. The errors of the haste with which the line was laid out, rather than its route, it must be admitted, furnished its opponents with a substantial foundation for the formidable opposition which they have adroitly raised. Besides the High Sheriff, and both chairmen of the Quarter Sessions of the county, and other gentlemen locally resident, whose high position, intelligence, and well-proved devotion to the interests of the county, must invest their evidence with much weight—alarmist naval men, one of them a late Lord of the Admiralty, rival engineers, and even the assumed impracticability as reported by the Board of Ordnance, have been brought to bear against the Coast line. Questionless, too, the Coast line is an extraordinary line. It is useless to tell Parliamentary committees what atmospheric traction may do in overcoming sharp gradients and curves—they can only deal with facts as heretofore proved, or which may come before them in evidence—while theories must be as unrevealed secrets. Thus it is that the atmospheric principle, good as it is, has been as a blight to all the extension schemes of the South Devon Railway. The decision against the line will, we fear, create another railway panic in Cornwall, as the western extension lines will, of course, be dropped now the initial scheme has been destroyed. The difficulty of crossing Hamaze, it will be observed, has weighed heavily in the decision of the committee. It is an instructive fact that the same objection was raised against the crossing of the mail when the steam-bridge was first tried. But nothing can be more absurd than the prominence which has been given to this objection. For several years the bridge has been crossed four times an hour, yet we never heard it alleged that it inconvenienced the ships in ordinary. Granting, moreover, that the passage is an impediment to the speed of the railway, yet is a delay of fifteen or twenty minutes, which an adverse but well-informed witness stated would be caused at the ferry, sufficiently important to be made an integral reason for the rejection of the whole line? We may mention that the Parliamentary committee did not value time so highly when they rejected the bill of the Bristol and Exeter Railway Company, for diverting that line in order that a quarter of an hour might be saved by running into the Great Western line laterally, instead of at right angles.

## ATMOSPHERIC RAILWAY SYSTEM—LOSS OF POWER.

TO THE EDITOR OF THE MINING JOURNAL.

Sir,—As you kindly noticed me in the *Mining Journal* of July 5, I take the liberty of again addressing you on the above important question. Your scientific readers are not to suppose that I have the presumption to think that they require information on the subject, or, if they did, they would condescend to receive it from an unknown individual like myself; but I expect that you have many readers interested in railway speculations, who are not much acquainted with engineering or atmospheric science, to whom the following plain statement of facts may not prove uninteresting. It is in pumping out the rarefied air where the greatest loss takes place, and not, as many suppose, from leakage in the lateral valve and travelling piston, though that is by no means small. If a uniform degree of exhaustion in the tubes and reservoirs is constantly kept up, so as to have a permanent propulsive power of 10 lbs. to the inch, the direct loss will be one-half of the steam-power required to maintain such a degree of exhaustion in the tubes. In order to ascertain what amount of power would be lost in the application of the atmospheric principle, as at present proposed, and to establish the truth of the general correctness of my conclusions, I have made the drawing which accompanies this letter—in making which I have presumed (what is generally believed to be correct) that, if one-fifth of the air contained in any air-tight vessel was taken out of it, an external pressure of 1 lb. on the square inch, over and above the internal resistance, would be obtained, and that for each succeeding reduction of one-fifth of the original contents, an additional pressure of 1 lb. on the square inch would be the result, provided the air, in the first instance, surrounding the vessel and that which it contained, were equally dense or rarefied.



I will now endeavour to explain the drawing. We first draw the line A A; at one end of which take any portion and draw B and C, parallel to each other, and perpendicular to A. Upon these lines make fourteen equal divisions (the size of which is quite a matter of choice), through which draw the lines 1, 2, 3, 4, &c. Divide the length of the line 1 by 14, and prolong it to s, by setting one of the divisions on the right of the line C. Again, divide the next line 2 by 13, and set two of these divisions from C to t. Divide 3 by 12, and make C, v, equal to three divisions. Each succeeding line must be divided by one less, and one more division placed to the right. When this is completed, draw the curved line R r through all the points s, t, v, &c., and the work, so far as drawing is concerned, will be finished. I will now endeavour to explain the use of this figure, which I will do in as plain and easy a manner as my humble abilities will enable me. We will first, therefore, suppose the lines A and 1 to represent the diameter of the cylinder of the air-pump, containing as much air, in its original density, as would fill that cylinder, supposing its length to be from B to C, of what additional length must the pump be, the air to be taken out, being reduced one-fifth below its natural state, or, in other words, giving a power of 1 lb. on the square inch?—the answer will be, that we must add one-fourteenth to the length of the air-pump, or we shall take out only 1/14th of the required quantity of air. We, therefore, extend the length of the cylinder to a little beyond C, so as to have a clear stroke of the pump of the length from B to s. When the piston is at s, it will not require any force to move it, except what will be necessary to overcome the resistance caused by friction; but, as the piston proceeds from s upwards in the cylinder, the resistance will increase, in the same proportion as the density of the air increases, until it arrives at the line C, when it will have acquired its natural strength; the triangle s, y, a, will represent the force which has been spent during this stage of the piston's progress. The remainder of the stroke will require a force equal to 1 lb. per square inch of the area of the piston, which, if represented by 100, the force spent below the line C will be 4, or thereabouts—so that about 4 per cent. will be the amount of lost power. For, suppose the cylinder of the air-pump and the tube in which the travelling piston moves to be both of the same size, and it was worked at a pressure of 1 lb. per inch, then as much fresh air would be admitted by the travelling piston, moving the distance from C to B, as would be taken out by the piston of the air-pump being moved from s to B. This is no great loss, to be sure, but we will prosecute our inquiries a little further, and the result will be less favourable. Now, let us suppose the diameter of the cylinder to be from A to 2, the piston of the travelling tube to be the same size, the air pump to take out as much air as was admitted by the travelling piston, moving the distance from C to B, as before, and working at 2 lbs. on the inch, the length of the stroke must now be extended to 4, the force required to move the piston up the cylinder, from C to B, being 100, the force spent below C will be about 8 per cent. The power lost by working at any other pressure, up to 14 lbs. on the inch, can be found in the same way—for instance, suppose we say 10 lbs., the line 10 may represent the length of the stroke of the air pump, the effective portion (or that portion which forces out the air) being from C to B, the ineffective power (or that portion, which, although it requires considerable force, discharges no air) will be from the end of the line 10, where it terminates in r up to the line C. The piston, before it begins to rise, will have an equal pressure on the upper and under sides (that is, 5 lbs. on each side), but, as it proceeds upwards, the balance of pressure will be lost, and, on its arriving at the end of the line 8, the difference will be as 6 to 5, at the end of the line 9, it will be as 7 to 5, and so on up to the line C, at which point the air will begin to escape through the valve at the top of the cylinder, which valve being pressed down at the rate of 15 lbs. on the inch will be lifted with a slight additional pressure on the under side, which

pressure is derived—first, 5 lbs. on the inch from the rarefied air below the piston; second, 10 lbs. on the inch from the steam-engine; the lost force will, therefore, be ascertained by measuring the area of the triangular figure below, or at the right of C, contained within the lines r, z, x, and comparing it with the effective force, or the parallel area contained within the lines A, B, 10, z, C, and if the latter area be represented by 100, the former will be represented by 67—viz. a loss of power of 67 in 167, or 40 per cent. The loss sustained by friction, or from a portion of air returning through the upper or lower valves, has not yet been taken into account, but the loss from this source will very materially depend on circumstances; and, not having any experience in the matter, I can only speak from supposition, but I should think that 1 lb. on the inch is not too much to allow for the weight and friction of the piston and rod when rising, and not allow anything for its descent, allowing its weight to be sufficient for that purpose, and supposing one stroke in ten be allowed for leakage and friction in the tube; but I feel confident the loss from this source will be much greater, especially when working at a high pressure—however, in the absence of facts, we will take it as stated. The following table shows the positive loss that must be sustained, with the probable loss, and the distance the piston of the air-pump will travel, as compared with the piston of the tube: the first column is the pressure on the inch at which the piston of the tube is worked; the second column shows the positive loss per cent. independent of friction, or other causes; the third includes friction, &c.; the fourth, is a comparison of the velocities of the pistons of the tube and air-pump, supposing them to be of one size. We commence with one pound on the inch, the positive loss of which is about 4 lb. in 100—one stroke, including friction at one pound on the inch, gives 212 lbs., to which we add one-tenth = 233 lbs., the loss on which is 133 lbs.; and as 133 is to 233, so is 57 to 100, which shows that the loss would be 57 per cent. of the whole power used. I will explain one more item in the table, which, I think, will be sufficient. We now take 2 lbs. on the inch for the effective stroke, say 100; positive loss, 8 + 100 = 108; and add for friction, at 1 lb. on the inch, 56 = 164; add one-tenth, 16 = 180; the loss, therefore, will be 80; then, as 80 is to 180, so is 44 to 100; the loss, in this case, is less than in the former one, being 44 per cent.: all the other items in the table are found in the same way as those above.

Pounds on the square inch.	Loss per cent. exclusive friction.	Loss per cent. inclusive friction.	Veloc. of pist. of pump, taking veloc. in tube as 1.
1	4	57	2.36
2	8	44	2.55
3	12	40	2.70
4	15	35	3.01
5	19	40	3.30
6	23	43	3.66
7	26	44	4.18
8	30	47	4.62
9	34	50	5.50
10	40	54	6.60
11	46	58	8.20
12	53	65	11.00
13	60	71	16.50
14	67	78	33.00

Marylebone, July 16.

JOHN WESTON.

## LONDON AND BLACKWALL RAILWAY.

Sir,—As a meeting of the proprietors of the above line has been convened for the 29th inst., on business which, from what has transpired in a committee of the House of Commons, may naturally be inferred to be of a highly gratifying and cheering character, I think a more fit opportunity could not be desired for the proprietors to convey in some marked manner their lively sense of the energy and able management for which the direction has lately been distinguished, and for which a unanimous vote of thanks is most richly merited. Whatever apathy or want of judgment may have characterised the proceedings of the directors formerly, and which was, at the time, most severely, and, perhaps, most deservedly, animadverted upon, it is, at the same time, incontrovertible that within the last few months there has been a degree of attention, of unwearied perseverance, and of indefatigable zeal, which redounds highly to their honour, and, if persevered in, must be productive of the most satisfactory and beneficial results. The inherent advantages this line always possessed may be considered as about to be fully developed; dividends may not only be expected every half-yearly meeting, but their steady increase may now be looked forward to with confidence. When the line is extended to Southend, as it no doubt will be, the augmentation of the receipts will be very considerable, and, on the junction with the Eastern Counties, the increased traffic will produce consequences of an equally satisfactory character. There is nothing now to prevent the Blackwall Railway from becoming one of the most prosperous in the realm; a few months of well directed activity has placed everything on a different footing. It was pointed out long since that a union with the Eastern Counties would prove highly advantageous to the two undertakings, instead of the rivalry which has hitherto proved so detrimental to all parties; the junction about to be effected will be productive of great and substantial benefit to both companies. The early insertion of these few remarks in your valuable *Journal* will confer a favour on—A SHAREHOLDER: London, July 19.

## TEAN AND DOVE VALLEY AND CHURNET VALLEY RAILWAYS.

Sir,—I, in common with many of your readers, have been considerably amused by the efforts which certain officious individuals have recently been making, not only to divert the attention of the public from the merits of the projected Tean and Dove Valley Railway, but also to puff, and bring again into notice, the old Churnet Valley line—a scheme which, though once notorious, is now almost forgotten, by all but its unfortunate shareholders. The gentleman to whom I allude has been industriously dancing attendance upon the editors of several provincial papers, with a cap full of articles manufactured by himself, and aiming at the two objects I have mentioned. The whole of these articles, it may be observed, are anonymous, and, although some of them bear a suspicious resemblance to editorial articles, yet the secret authorship peeps out from all—yes, verily, "the voice is Jacob's voice, but the hands are the hands of Esau." Now, Mr. Editor, I know that it is your disposition to afford fair play to all parties who may have occasion to trouble you, and I am sure you will allow me to make a few remarks, by way of reply, to our friend of the Churnet Valley. In the first place, then, I must beg to tell him, that however necessary the North Staffordshire line (i.e., from Macclesfield via the Potteries, to Colwich) may be to the important district which it embraces, it is rather too much to expect that the London and Manchester traffic is to be dragged along so circuitous a route; a glance at the map will convince the public that the North Staffordshire line is not, and never will be, a London and Manchester line. The other portion of the North Staffordshire scheme (i.e., from Macclesfield to Willington) does not profess to be a London and Manchester line, and it may fairly be questioned, whether one and the same company can have any serious intention of making the two lines, running, as they do, parallel, and within a few miles of each other, nearly the whole of the distance. That the North Staffordshire Company may intend to apply for an Act for constructing both lines, no one who is at all conversant with railway tactics can doubt the obtaining of an Act for that purpose, would give them absolute possession of the ground, and keep their opponents at bay, but the actual making of both lines is another and very different matter, and is an idea which, to my certain knowledge, many influential parties, connected with the Potteries portion of the North Staffordshire schemes, consider themselves privileged to laugh at. But supposing, on the other hand, and for the sake of argument, that there really exists on the part of the North Staffordshire Company an intention of carrying out the whole of their scheme—What then? The whole, be it remembered, is at present only a project; and if the Tean and Dove Company can offer a much better, and more profitable, line, than the Churnet Valley portion of the North Staffordshire project, what earthly reason is there to prevent it? Are we to be gravely told, that because the North Staffordshire Company think fit to project a line of railway in a certain direction, that the Tean and Dove are precluded from projecting a better line, simply because it will traverse a portion of the same country? Surely, Mr. Editor, you are sufficiently acquainted with these matters, to know that the time has gone by in which such nonsense might have been insisted upon. The country is now in a situation to make choice of the best line, and the simple, business-like, question to be asked, and answered, is—"Which possesses the greatest merits, the Tean and Dove, or the Churnet?" The advocate of the latter harps a good deal upon the fact, of the Board of Trade having already reported in its favour, but "as things go," the report of the Board of Trade upon a railway project is a rather discordant string to play upon. "The light of other days is faded," with reference to the decisions of that unfortunate board. In short, Mr. Editor, you are well aware that the Railway Department of the Board of Trade has been regularly cashiered by Sir Robert Peel.

You will think, Sir, that I am scribbling on to a most inconvenient length; but there is one little fact connected with the Churnet and the Board of Trade which deserves to be recorded. Before I state it, I will gratify our Churnet Valley friend, by assuming, for a moment, that some degree of importance is to be attached to the report of the Board of Trade. Under what circumstances, then, was that vaunted report made? Was it when the Churnet was in its present mongrel and senseless shape? Certainly not. That report was made when the Churnet was a London and Manchester line, which it has now voluntarily, and to suit its own selfish purposes, ceased to be!—So much, then, for the Churnet Valley and the Board of Trade. Now for the Tean and Dove Valley scheme. This is a London and Manchester line, and (as compared with the North Staffordshire line) will effect a saving of seven miles of actual distance; whilst doing so, it will embrace the important towns of Leek, Cheddle, Tean, Uttoxeter, and Burton-upon-Trent (in respect of which latter towns alone, it is computed that 50,000l. per annum is paid for carriage), and it will also, to adopt the language of its prospectus, open the rich and extensive coal-fields at Biddulph, Poynton, Adlington, Cheddle, Gresley, Swadlincote, and Moira to the whole kingdom. Such, then, are some of the merits of the Tean and Dove Valley scheme, and of its claims upon public attention and support. If our Churnet Valley friend wishes for further discussion, I am prepared to afford it him, when and where he likes. In the meantime, I can assure him that, notwithstanding the various guises in which he has appeared, I am well acquainted with his real position, as to the old Churnet Valley line, and will, in conclusion, give him the benefit of an anecdote, the application of which I will leave to himself and his conscience:—Coleridge takes up the old idea, that the Jews have a peculiar odour, and may be known by it, just as Colbett affirmed, that he could scent a black man at the distance of a mile. "Once," says Coleridge, "I sat in a coach opposite to a Jew—a symbol of old clothes bags—an Isaiah of Holywell-street. He would close the window; I opened it; he closed it again; upon which, in a very solemn tone, I said to him—'Son of Abraham, thou smell'st! son of Abraham, art offensive! son of Jacob, thou hast a bad odour! See the man in the moon, he is holding his nose at you at that distance; dost thou think that I, sitting here, can endure it any longer?' My Jew was astounded—opened the window forthwith himself, and said he was sorry he did not know before I was so great a gentleman." A SUPPORTER OF THE TEAN & DOVE VALLEY RAILWAY.

DIRECT LONDON AND EXETER RAILWAY, WITH EXTENSION TO FAIRMOUTH. We observe this among the various projects of the day, the magnitude of which somewhat startled us at first, leaving in mind the interests which it is calculated, if successful, to affect. The present, however, is not an age when interests, considered vested, can stem the progress of improvement, and we have come to the conclusion, that this undertaking is vigorous, and carries with it no improbable chance of success. A trunk line from the metropolis to Falmouth must command the attention of capitalists and the public. The decision of the York committee plainly shows the feeling in favour of direct communications, as well as the disposition to encourage improvements, and no one can say a saving of thirty miles, in the transit between London and Exeter, is to be lightly regarded. The undertaking has been sometime on foot, but the projectors do not seem disposed to bring it out hastily, from which we augur favourably; a plan of this kind requires mature consideration, and the delay shows, we think, an intention to place it on a solid, rather than a speculative, foundation. If the project is properly brought forward and conducted, we think the grounds on which it proceeds extremely strong. The advertisement, which appears elsewhere (referring, by the way, to the questionable authority of the Board of Trade in favour of such a line) quotes the opinion of the committee of the House of Commons, sitting on the Wilts, Somerset, and Weymouth, as well as the Plymouth to Falmouth lines, and the promoters seem to attach, not without reason, much importance to the results arrived at. It is certainly remarkable, that the Board of Trade should have reported in favour of the line from Plymouth to Falmouth, and against that more popular, we believe, in the county, through central Cornwall, and that the error of such opinion, as now manifested, to be two-fold, opens the way to a trunk line through the entire west of England. The projectors are, therefore, entitled to credit for the undertaking, especially as, when it was first announced, it had not the benefit it now possesses, of the opinions, or rather decisions, quoted. We abstain, however, from comments on the scheme further, till the prospectus is published, and we shall then recur to the subject, if the plan is likely to be carried out in a way conducive to its success.

GREAT LUXEMBOURG COMPANY.—This company has obtained a concession for a line of railway, to join the line from Charleroi to Namur and Liège, which will pass through the province of Luxembourg, in the direction of Dinant, Neufchâteau, and Arlon, with an extension to Thionville and Metz, at which latter city it will form a junction with the Paris and Strasbourg Railway. The distance is about 140 miles. It will, moreover, unite all the Belgian Railways with those of France; and thus form the quickest and cheapest route from those countries, and from England to many of the most important districts of the north-east and east of France, the south of Germany, and the eastern parts of Switzerland and Italy. At its northern terminus, a large proportion of goods' traffic from Holland, Belgium, and other countries north may be fairly calculated upon, and a vast extent of country thus opened. To the south several railways are projected, and at Thionville and Metz, the Luxembourg line will meet the passenger and goods' traffic on the Moselle, to and from Coblenz. Much of the trade now going by the Rhine, through Holland, will probably take this route, via Antwerp or Calais, as attended with less difficulty, delay, and expense. The local traffic in passengers and goods in the districts through which the railway will pass, is stated to be very considerable, while the districts abound in timber, corn, wine, and minerals of every description—the want of a reasonable conveyance having been a great drawback, they are partly lost for the means of transit. There are twenty-eight blast furnaces in the province of Namur, and forty-one in that of Luxembourg, which all draw their ore from the Luxembourg mines; and, in addition to the local consumption of iron, about 70,000 tons are annually exported. The imports from Belgium consist of glass, manufactured goods, colonial produce, spirits, zinc, marble, building stone, coal, &c.; and that of coal from the Belgian coal-field, at the northern terminus, and from Sarrebruck, at its southern extremity, would yield a large revenue. It appears that, in 1828, a company, called the "Société du Luxembourg," undertook to carry out—1st, a communication between the rivers Meuse and Moselle, thus affording a perfect passage through the whole length of the province of Luxembourg; and, moreover, bringing into activity the mineral wealth of this province, to effect which the company obtained a perpetual grant, with almost unlimited powers. Operations were commenced at the Liège end, but were stopped by the revolution of 1830. The local traffic on the river Ourthe, which flows into the Meuse, may be estimated at about 70,000 tons per annum. This company had also acquired three valuable mining districts, including the lead, copper, and iron mines at Durbuy, the lead mines of Maizeret, and the manganese mines of Bihain. The grant of Durbuy extends over 19,308 statute acres. About three years since these mines were let to a company, who are now actively working them; paying a royalty of one-tenth of the produce. The Maizeret minerals extend over 630 acres, and are contiguous to the Meuse, and to the high road from Namur to Liège. The concession of Bihain is 1614 acres. The company have, moreover, explored several other localities, yielding barytes, rock-salt, antimony, lead, copper, iron, and other minerals, grants for which have been applied for. It is proposed to purchase the interests and property of this company, with all the rights and privileges vested in them, at the sum of 260,000l. As the railway will effect the purposes of conveyance, it is intended to complete the line of navigation only from the Meuse at Liège to La Roche. It is estimated that the local traffic will produce a net profit of about 8 per cent. on the capital; the Belgian canals are represented to give a net profit of from 6 to 14 per cent., and the Charleroi and Brussels canal pays 10s. per cent. The concession of the railway is granted for ninety years from the date of its completion, and the conditions are of a generally favourable nature. The tariff is 30 per cent. higher than on the Belgian lines, being about the same as that of France. The Government gives, without charge, all the land required for the railway, wherever it crosses crown lands, and no Government, or other tax, is to be imposed. The cost of construction is expected to be considerably under the ordinary average of the Belgian lines, the Government have engaged to release the lessees, and return the caution money, and pay expenses of surveys, &c., should the estimate now being made by the Government engineers exceed the average cost of 800,000l. per Belgian league (about 10,000l. per English mile), for a single line of rails but with the land, earth-works, and masonry for a double line. The prospectus at length, which appears in another column, enters more minutely into the prospective advantages which the project holds out, and to which we invite the attention of our readers, particularly as this company has the concession of very valuable mines.

GREAT COUNTY DOWN RAILWAY.—Proceedings have taken place, during the past week, which insure the pushing forward of this grand scheme, with a persevering energy commensurate with the great importance of this very popular and excellent undertaking. At a large meeting of the provisional committee, held in Downpatrick, on Friday, a most gratifying report was read, with respect to the traffic returns and the engineering character of the proposed line; and an acting committee was struck, consisting of the leading landed proprietors and merchants of the County Down, to whom instructions and authority were given to promptly take all necessary measures for having the project fairly before Parliament at the very commencement of next session. The report presented, and which had been carefully prepared by one of the most worthy parties, showed an amount of passenger, and goods' traffic far exceeding the calculations or expectations of even the most sanguine promoters of the proposed line.—*Norwy Telegraph.*



## PROGRESS OF RAILWAYS IN FRANCE.

(FROM OUR PARIS CORRESPONDENT.)

The Parliamentary session is at last terminated, the formal closing having taken place yesterday. All the *projets de loi* relative to railways, that the Minister of Public Works was anxious to pass, have safely weathered their way through the two Chambers, the last of them, respecting the Tours and Nantes, and Paris to Strasbourg lines, having been passed by the Peers on Friday without any discussion whatever, beyond a request that the former should pass by a particular part of the town of Angers, and the promise of the Minister to take the subject into consideration. I think it exceedingly objectionable thus to lump into one law two such important lines, as the Tours and Nantes, and Paris and Strasbourg; for it is calculated to embarrass, if not to mislead, persons, especially foreigners, who may be desirous of investing their money in one or the other railway. For the information of your readers, I beg to state, that, although jumbled in the same law, the two lines go in different directions, will be in the hands of different companies, will be conceded for different periods, and have very little indeed in common in the arrangements to which they will be subjected. There is no more reason for having them included in one law, than there would be for mixing up in the same project the money voted for the *fêtes* of July, and for the maintenance of the army.

In the *Moniteur* of yesterday, the law relative to the Great Northern line, from Paris to the Belgian frontier, with its various embranchments, is promulgated with the formal assent of the King. It is now consequently the law of the land; and all that remains to be done is, for the Minister of Public Works to adjudicate the lines. If my information be correct, he is anxious to do so with as little delay as possible; and it is not improbable, that, in a few days, the *Moniteur* may announce on what day he will proceed to that important measure. The companies that are formed to compete for the line, have all, I believe, got their money ready that will be required as a deposit, and are now actively engaged in preparing the various documents that will be necessary. As in all the companies, one-half of the capital, at least, has been subscribed in England, it may, perhaps, be satisfactory to many of your readers to have an outline of the law, as published in the *Moniteur*:—Article 1. Authorises the Minister of Public Works to proceed by way of publicity and concurrence, conformably to the *cahier des charges* to the concession of the railway from Paris to the Belgian frontier, with embranchments from Lille on Calais and Dunkerque.—2. Authorises him to proceed to the adjudication of the railway from Creil to St. Quentin.—3. Authorises the adjudication of the railway from Famporea to Hazebrouck.—4. Requires that he shall state, in a sealed letter, the length of time for the adjudication; that time in no case to exceed—*forty-one years* for the railway from Paris to the Belgian frontier, with embranchments on Calais and Dunkerque; *seventy-five years* for the railway from Creil to St. Quentin; *seventy-five years* for the railway from Famporea to Hazebrouck.—5 and 6 open credits of 13,000,000 f., and of 6,000,000 f. for the completion of the line from Paris to the Belgian frontier. Then come seven articles, which are directed to apply, not alone to the Northern, but to all railways. The first provides that no one shall be permitted to compete for the adjudication of any line, unless accepted by the Minister of Public Works, unless he has deposited the sum required by the *cahier des charges*, as also the statutes of the company, and registers of the shares subscribed for, &c. The next article, the eighth, declares, that the *recépissés de souscription* are not negotiable, that each subscriber is responsible for five-tenths du versement du montant des actions that he has subscribed for, that he is entitled to all the shares for which his name may have been returned in the *compagnie adjudicataire*; the ninth article declares, that the adjudication shall have no effect, until homologated by royal ordinance; the tenth, that the *compagnie adjudicataire* cannot issue shares, or promises of shares, negotiable, before being constituted and duly authorised as a *société anonyme*; the eleventh, that the founders of the company have a right only to the repayment of their advances, for which they shall give vouchers, to be approved by the general assembly of the shareholders, and that any remuneration that may be made them shall be fixed by the said assembly; the twelfth regulates the manner of voting in the *conseil d'administration* of the company; the thirteenth (this clause is most important, for being destined to check gambling in shares, and promises of shares) says—"Any publication whatever of the value of shares, before the homologation of the adjudication, shall be punished with a fine of from 500 to 3000 f.—(several of this morning's newspapers, in dread of incurring the penalty, refrain, for the first time, from publishing the dealings on the Bourse yesterday, in the promises of shares and shares of the different companies)—"and any agent *de change*, who, before the constitution of the *société anonyme* shall negotiate the same, shall incur the same penalty." The fourteenth clause prohibits the company from making arrangements with any carriers, stage coach and canal proprietors, for the conveyance of merchandise and travellers, without giving the same "privileges and advantages to all others."

Such is the final law in this Great Northern line, which has been so long before the public and the legislature, which is regarded with intense interest by tens of thousands of persons, both in England and France, and which is of immense importance, in a national point of view. Had it not been for the illiberal prejudice of the Chamber of Deputies against railway companies, this line of railway might have been opened at least a year ago, without any injury to the state, and with great benefit, not only to the company that might have possessed it, but to all others that are now prepared to bid for it. But it is too late to complain. In a few weeks the Minister of Public Works will hand over the line to a company, and, meanwhile, he is pushing on the works that still remain to be done with great activity. He will proceed, in a few days, to the adjudication for the erection of some of the principal stations, and he has a great number of all descriptions of workmen employed at the station at Paris. As I have already said, I think the partial opening of the line may be expected to take place about the middle or end of the autumn.—I have left myself no room to write about the other lines, in which your readers are interested; but what is to be said can be communicated in my next.

It appears, from the newspapers, that serious disturbances have taken place between the workmen engaged on the Avignon and Marseilles road, now in course of formation. This class of men belong, for the most part, to two societies, one of which is called the *devouans*, and the other the *loupes*, and which entertain such great enmity to each other, that they are almost always fighting. In the affair referred to, it appears that an armed force was necessary to appease the *wolves* and their opponents, and that many of both parties have been injured, some dangerously.—Paris, July 22.

THE WEST FLANDERS RAILWAYS.—The province of West Flanders is bounded on the north by the sea which faces England, on the east by East Flanders, and on the south by the frontier of France; its population is 650,480 inhabitants, for 1250 square miles. There are fifteen large towns, and at least 220 small towns, or large villages. The subsoil is generally of a sandy nature, with an upper soil of six to eighteen inches of alluvial earth. Although the population of this country is very confined, they export, to a considerable extent, and there is a very large class of cultivators, and as soon as the tariffs are at a low price an immense traffic will be opened. It must be observed that this province, with the exception of the south, has no river navigation, and the canal conveyance is far from being sufficient. As the country is on a level, and the roads well paved and kept in excellent order, there is nothing wanting on that point, but in every instance the Flemings leave the paved road when the railway of the State will convey him at a low charge. The country is covered with flour-mills and oil-mills, breweries, distilleries, tanneries, &c. One of the lines now proposed to be laid down from north to south—viz. from Bruges through Courtrai to Ypres, Poperinghe, Menin, Thourout, and Roulaer; another line running from east to west from Furnes will pass by Dixmude, Thourout, and Thiel, as far as the central lines, uniting Furnes, Dixmude, with Bruges, and placing the majority of the towns in a direct line with Brussels. There are very extensive manufactures at Courtrai, Menin, and Ypres; Furnes is near the coast, and could easily become a port for the importation of fish. These projected railways will be 143 kilometres, and the required capital about 21,000,000f., under most favourable concessions, so that in a short time there will be lines from one end of Belgium to the other, joining those of France and Germany, thereby throwing open one of the most important facilities to commerce, and an expeditious transit.

SICK HEADACHES, WITH WEAKNESS AND DISORDERED STOMACHS, CURED BY HOLLOWAY'S PILLS.—It was these wonderful pills that cured the Earl of Aldborough of a similar complaint, after the most eminent doctors in England and on the continent failed to give him the least relief. This famous medicine will cure any person, however bad his case may be, who is suffering in any way from general debility, or from the head, the stomach, the bile, or the liver. It is confidently believed, that as this medicine (unlike all others) acts directly upon the very main springs of life, that no disease whatever can resist its influence in the cure of dangerous complaints.—Sold at Professor Holloway's establishment, 244, Strand, and by all respectable medicine sellers throughout the civilised world.

BRECON AND MERTHYR TYDVIL RAILWAY.—This railway is in connection with the Welsh Midland Railway, and will form a most important branch of it; the majority of the shares are intended to be allotted to the Welsh Midland shareholders, a certain portion being reserved for other parties, and those locally interested. There is little doubt, from this railway going into the heart of the iron mining districts, containing an immense and daily increasing population, that greater prospect of a remunerating return is likely to accrue than from any other railway communication now projected, and parties securing shares will be considered fortunate. The survey of the line is stated to be nearly complete, and the expense of the formation of the railway will be comparatively cheap.

## GREAT WESTERN RAILWAY OF BENGAL

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Capital £4,000,000, in 80,000 shares of £50 each. Deposit 8s. per share.  
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Major White, Bengal Army, Pall Mall  
W. S. Fitzwilliam, Esq. Old Broad-street, director of the Essex and Suffolk Railway  
(With power to add to their number.)

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Major Morse Cooper  
Archibald Spens, Esq.  
W. P. Andrew, Esq.  
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Captain Hitchens  
The Honourable W. Gore  
Major Walter  
John James, Esq.  
Mr. Alderman Hooper  
W. S. Fitzwilliam, Esq.  
(With power to add to their number.)

## TRUSTEES AT CALCUTTA—Dwanthanth Tagore.

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Hull ..... ditto  
Bristol ..... Messrs. Stuckey and Co.  
Exeter ..... Messrs. Saunders and Co.  
Leeds ..... Messrs. Beck and Co.  
Sheffield ..... The Sheffield Banking Company  
York ..... The City and County Bank  
Edinburgh ..... The British Linen Banking Company.  
Glasgow ..... The City of Glasgow Bank  
Dublin ..... Messrs. Latouche and Co.

## BANKERS IN CALCUTTA—The Union Bank.

BANKERS IN BOMBAY—The Bank of Western India.

ENGINEERS—Charles Vignoles, Esq., F.R.A.S., M.R.I.A.

STANDING COUNSEL—A. E. Cockburn, Esq., Q.C.; Edwin James, Esq.

SOLICITOR—W. B. James, Esq., 5, Basinghall-street.

AGENTS AT CALCUTTA—Cart, D. Tagore, and Co.

The object of this company is to construct a line of railway connecting Calcutta westward with the River Ganges at Patna, passing along the left bank of the Hooghly, by Dumdund, through Barrackpore, the country residence of the Governor-General, and a large military cantonment, to Chogda, at or near where it is intended to cross the river, and will then continue its course through the highly-cultivated provinces of Bancoora, Beerboom, Ramghur, Monghyr, and Behar, to Patna, terminating at the chief town of that important district, with an extension from the main line commencing at Chogda, on the left bank of the Hooghly, joining the Ganges at or near Sootee; this extension being a short and practicable line, approved of by all parties acquainted with that part of the country, is in accordance with the recommendation of the Honourable East India Company upon the subject of railways in India.

The length of the main line is about 320 miles, and the extension to Sootee about 115 miles.

The committee feel great pleasure in announcing to the public, that Dwanthanth Tagore has consented to act as trustee for this company in India; and has addressed his firm at Calcutta, requesting they would act as agents there.

Applications for shares to be made to the secretary, at the offices of the company, 147, Leadenhall-street, and to the undernamed shareholders:—London: Messrs. Peppercorne and Co., 2, Old Broad-street; Hill, Fawcett, and Hill, Thredneedle-street; and J. W. Scott, Esq., 3, Bartholomew-lane—Birmingham: W. R. Collis—Leeds: Messrs. John Young and Co.—York: Messrs. Grayston and Earle—Edinburgh: Messrs. Robertson and Co.; and Messrs. McCallum and Co.—Glasgow: Messrs. Tassie and Co.—Dublin: Messrs. Bruce and Symes—Liverpool: Messrs. Ridsdale and Chauncey, Mr. James Pratt, and Mr. J. O. Binger—Derby: Mr. T. Eyre and Mr. J. Cuff—Hull: Messrs. Collinson and Flint—Manchester: Messrs. Cardwell and Sons, and Mr. J. Clegg—Bristol: Mr. Luke Arnold—Exeter: Beaumont and Co.—where prospectuses and forms of application may be had.

## THE TALACRE IRON AND COAL COMPANY AGAIN.

COURT OF COMMON PLEAS, DUBLIN—JUNE 19, 1845.  
LEWIS LEVASON v. WILLIAM HODGES.—This was an action to recover from the defendant, Mr. William Hodges, late lord mayor, and alderman of Dublin, and a director of the Talacre Coal and Iron Company, the sum of 2,033l. 6s. 8d., the amount of a promissory note, signed by the defendant and Messrs. W. Chappelow, Clouston, and Hyndman. It may be known to some of our readers that, in February last, an action was tried in Dublin for two notes of a similar nature, in the latter case, the plaintiff was Mr. Hodges, and he sued the defendant, Mr. Levason, in the latter case, the present one lasted four. The notes referred to were passed to Levason in February, 1841, as part of the purchase of the Talacre property, and the defence in Shaw's case was, that there was a conspiracy between Levason, Alderman Wood, and others, to concoct the company, charge a large price for the mines, which were of no value, and that the signature of Shaw was obtained by fraudulent means. The jury found a verdict for Shaw; and now Mr. Hodges, the present defendant, was sued upon another note, given at the same time, for the same sum, and the defence being, however, that in the last trial the action was by an indorsement, whereas the plaintiff, on the present occasion, was the party to whom the note was made payable, and one of the parties charged with the fraud. It also differed from Shaw's case in this, that Shaw was a shareholder, whereas Hodges was a director from an early period, but not, as it was alleged, one of the concocting directors.

Messrs. Hatchell, Q.C., Pigott, Q.C., Baker, Q.C., Lynch, and Levy, were for the plaintiff; Messrs. Brewster, Q.C., Macdonough, Q.C., Dwyer, and Fitzgerald, were for the defence.

Mr. HATCHELL shortly stated the plaintiff's case, and put in an agreement, dated November 19, 1839, signed by the defendant, Wood, and others, purchasing from Levason the Talacre Mines for 19,000l., 4,000l. of which had been paid; and then the note in suit, which was signed in further payment of a reduced sum agreed to be given to Levason, in February, 1841; and the learned counsel argued that a verdict must pass for the plaintiff, and that the defendant was bound to pay the note, and that the defence was untenable. He called Mr. Fothergill, a solicitor residing in Dublin, who proved Alderman Hodges's execution of the agreement in question, as also a suit instituted in Ireland against Hodges in 1841, for the purchase-money in the agreement.—Cross-examined by Mr. BREWSTER: Witness never saw Levason; knew Alderman Wood, he was the "great man" in the company; saw Wood, Weston, and Davis in Dublin in the summer of 1839; Wood was then High Sheriff of London, and a meeting was held about the company, at which Wood made a speech. Witness received several deeds from Wood, but he could not say in a ministerial capacity in getting signatures to them. The witness then pointed out the son of Alderman Wood in court, who was in communication with the plaintiff's attorney.

Mr. H. F. Wood called: Is the son of Alderman Thomas Wood.—When this witness first got into the box, he asked the judge to make an order that the plaintiff should pay his expenses: On cross-examination on this point by Mr. Macdonough, he admitted he had been in previous communication with the plaintiff's attorney, and believed his father had, on the Monday, received from Mr. Hodges 30l. to send over the deeds. His Lordship then ordered the examination to proceed.—Witness was present when the note in suit was signed: it was signed at his father's office, in Corbet-court, Gracechurch-street;

several directors were present, and they employed a Mr. Slaughter to see Levason, and arrange with him for his demand: Slaughter saw him and told the parties Levason would take 2,000l. off his demand of 19,000l. if he got bills for the 13,000l.: Slaughter took a fair arrangement and the best to be done, and expressed his opinion that by that arrangement he (Levason) would be a "great loser."—Cross-examined by Mr. MACDONOUGH: the meeting was held in my room in my father's office: it lasted about an hour: My father was not solicitor to the Talacre Company; Mr. Ellis, my father's partner, was solicitor: my father was not solicitor at this time: I was writing letters in my room during the meeting: I have seen Mr. Slaughter lately, but I did not speak to him: I would not speak to such a man: I have a personal dislike to him: my dislike does not amount to hatred: I believe he is a respectable man: nobody desired me to be attentive to what was going on: I was in and out of the room: my father was chairman of the meeting: Levason was at a tavern opposite my father's during the meeting: I was sent over several times with immaterial messages from my father to him: I do not recollect the notes being signed, but I saw the pen put to the paper.—Question: Did not your father refuse to sign these notes when they were handed to him?—Mr. Wood: I did not hear him refuse, I was out of the room at that time; the notes were left with my father, and he and Levason met at our office in the evening, when the parties had gone, and the notes were given to him: I fetched Levason to the office: I do not remember when I saw Levason last. Mr. MACDONOUGH: Was it three years ago?—It was recently. Was it a year ago?—Yes, a month ago: I saw Levason abroad: I saw him in Germany on the Rhine. What did you see him about?—I object to answer. His Lordship ordered the witness to answer the question. Mr. Wood: My business was professional with him. Is he your father's client?—No. Is he yours?—No.—X; he was in some things, and he was not in some things—that is what I mean: I was at a hotel: he is a *surgeon-major*. By a juror: I had an indirect communication from him: it was part of my business to see him, and the examination of this witness caused a more than ordinary sensation and expression on the part of the jury. This closed the plaintiff's case.

Mr. BREWSTER said he appeared as counsel for the defendant, Mr. Hodges; that this was one of the vilest conspiracies attempted in modern times, and it was not the first time it had been exposed and defeated in courts of justice. He commented severely upon Mr. Wood's testimony, particularly that portion in which he swore, first, Levason was not his client, and, shifting his statement when he knew his danger; and his swearing particularly to what Slaughter said, when he admitted, first, being engaged in letters, and then carrying mere messages during the hour the meeting lasted, to Levason; and also to the attempt which had been made by Wood's withdrawing from liability, and letting in Hodges and the rest, which, the counsel said, was a contrivance to put in honest men, and let out the knaves. The jury could, perhaps, understand why young Wood disliked men of character like Mr. Slaughter. He designated the action as Alderman Thomas Wood's, and proceeded to open the defence of fraud and conspiracy, in nearly the same manner in which it had been stated in the first case, and concluded, by calling for a verdict for his client (the defendant), drawing the attention of the jury, particularly to the fact that the defendant was no party to the original contract of February, 1839, between Wood and others and Levason, for giving the first price for the mines, though the defendant's name, and another respectable Dublin merchant, Mr. O'Gorman, were named in it as parties; and that Wood, who had, by the passing of the note, escaped from the consequences of his own bargain, was then, with Levason, seeking to make men liable who had been procured as shareholders, by the statements made by the parties forming the company.—Messrs. Dawson, Frick, and Davis, were sworn, but their evidence was the same as in the former actions.—Mr. Bradfield (Mr. Ashurst's clerk) produced the same papers, and gave the same evidence in support of the documentary proof; he also deposed to two actions which had been brought in England to recover the amount of this note, against other parties, without success. Upon cross-examination, this witness produced the minute-books, and some other papers, which the plaintiff's counsel tendered as evidence, to show Hodges's conduct in the transactions of the company before he signed the note, and also after the note had been signed, that Mr. Chappelow instructed Mr. Ashurst to investigate the transactions of the company, which led to the books and papers coming into his possession, for the defence of the shareholders.—This closed the defence.

Mr. MACDONOUGH made an eloquent appeal to the jury for the defendant, in reply to the evidence produced by the plaintiff. He alluded, in a strain of eloquent indignation, to the attempt made to proceed from his client, and to a man, by a man whom he denounced as a tool of others—a wanderer from England—for purposes the jury would understand, who had not, since he got the notes in 1841, shown himself even at Mr. Wood's office, where he got them; and to the important fact that the handwriting, in all the documents produced to prove the conspiracy, and in the very note in suit, was that of Weston, the secretary; that the cheques for the moneys paid to Levason for the "Bryn" coal, sent as "Talacre" to Dublin, were signed by Wood, Weston, and Davis; that these three had escaped liability by the statements made, though original parties in getting up the company; and he commented on Mr. Wood's conduct in the whole matter, pointing out to the jury that as chairman, he dictated the entries in the book—as solicitor, he worked the company—but, the learned counsel said, whether as trustee he had violated his trust, the jury would say. With respect to Mr. Alderman Thomas Wood's son's evidence, he left him to the jury, for he (the counsel) did not think they would believe him.

Mr. LEVASON then replied, in a very long speech, for the plaintiff. He contended the defendant was bound by the solemn deed, which he had signed in November, 1839, agreeing to give 15,000l. to Levason; that he had full opportunity to test the mineral capacity of the district in which the property lay, and, therefore, was not, and could not be, expected to be exonerated from payment of the note given in compromise of that solemn liability by deed—that the fraud had not been proved; it was all imputation, without the requisites required to make it evidence, upon which they could defeat such a security, and that even if the fraud had been proved, the defendant was prevented by his proved ratifications of the contract, in setting that fraud up as an answer to the action.

The evidence and speeches concluded on Saturday afternoon, and his lordship adjourned his charge till Monday.—On Monday, 23rd June, Mr. Justice JACKSON summed up. This action was a most important one, not only because of the amount, but from the nature of the defence relied upon. The jury would throw out of their consideration all extraneous topics, which might, from the nature of the case, have been involved in it. They should have no partiality for either party, but should consider all matters relating to the Talacre Company which they had heard or read in the public prints. Their verdict must be given upon the evidence; and they must approach, with calm and considerate minds, to the only question for their consideration. The action was upon a mercantile and negotiable security, signed by the defendant, Chappelow, and others, for 2,033l. 6s. 8d., in favour of the plaintiff, dated 20th February, 1841. It was of vast importance in a commercial country that the validity of mercantile notes should not be lightly shaken; on the one hand, it would be a great evil, if a man put his hand to such a note, he was bound to make good reason why he should not pay it. The plaintiff's case could be made out by throwing down the note; but the defendant did not deny he signed the note: he had taken upon himself to satisfy the jury that he was not bound to discharge it—that it had its origin in a "vicious transaction"; and was got by fraud and imposition, which absolved him from its payment. He need hardly say to the jury that, "if the fraud could be proved, it would be a great evil, if a man put his hand to such a note, he was bound to make good reason why he should not pay it." 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